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COMMERCIAL FERTILIZERS

Report for 1950



H. J. FISHER
Chief Chemist

THE CONNECTICUT AGRICULTURAL EXPERIMENT
STATION, NEW HAVEN, CONNECTICUT

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REPORT ON INSPECTION AND ANALYSIS OF COMMERCIAL FERTILIZERS, 1950

H. J. FISHER, Chief Chemist¹

CONNECTICUT LAW AND REGULATIONS REGARDING COMMERCIAL FERTILIZERS

While systematic analysis of fertilizers in Connecticut began in the 1850's,² the first Connecticut fertilizer law was passed by the General Assembly on July 8, 1869. This law required "commercial manures" to be tagged with "a true analysis or specification of the chemical elements and their several amounts contained therein", provided penalties for false declarations, and authorized the secretary of the Connecticut Board of Agriculture "to procure the analysis of any fertilizer offered for sale in this state, and to prosecute any persons who violate the provisions of this act". There was no provision for registration of fertilizers and no State laboratory to analyze them. In 1882 the law was amended to require the registration of all commercial fertilizers and the payment of an analysis fee of 10 dollars "for each of the fertilizing ingredients contained or claimed to exist in said fertilizer". Administration of this law was entrusted to The Connecticut Agricultural Experiment Station, which had been founded in 1875 largely for the purpose of controlling the quality of fertilizers sold in the State.

The wording of the 1882 law did not restrict the ingredients on which fees were to be paid to nitrogen, phosphoric acid and potash, but such a restriction was made by administrative ruling on the grounds that only these elements were "those whose determination in an analysis is necessary for an evaluation".³ In 1919 the law was amended for the purpose of imposing a tonnage tax in addition to the analysis fees, but in the course of amending the law its language was so changed as to limit the ingredients permitted to be declared on the tags to "(a) available phosphoric acid (per centum); (b) total phosphoric acid (per centum); (c) nitrogen (per centum); (d) equivalent ammonia (per centum); (e) potash soluble in water (per centum)". This law served for 30 years, but increasing knowledge of the importance of minor elements in plant nutrition began to make it inadequate to serve modern needs. Manufacturers were adding magnesia and borax and sometimes copper sulphate to their mixed fertilizers, a practice that was recommended by State agronomists but that technically was a violation of the fertilizer law. Therefore, at the instance of this Station the General Assembly amended the

¹ Analyses were made by Messrs. O. L. Nolan and Sherman Squires and Miss Helen Kocaba; inspection and sampling by Messrs. Richard Nichols and George Smith; and compilations by Mr. Nolan and Miss Lillian Goffi.

² "Commercial Fertilizer", April, 1950.

³ Conn. Agr. Expt. Sta., Annual Report for 1883, p. 13.

law in 1949 to permit manufacturers (upon permission of the director of the Station) to guarantee other fertilizer components than nitrogen, phosphoric acid and potash on payment of a \$10.00 analysis fee for each element so declared.

Certain other changes were made in the law, which are summarized in the following letter that has been sent to all registrants:

"To Manufacturers of Fertilizers:

"The Connecticut law requires that before any brand of commercial fertilizer is offered for sale in this state there shall be filed with the director of this Station certified copies of the statements prescribed by law, on forms supplied by said Station.

"It is also required that before the issuance of the certificate of registration by the Station, and on January first of each year, an analysis fee of ten dollars for each fertilizer ingredient contained in each brand shall be paid to the director of The Connecticut Agricultural Experiment Station. The law was amended by the 1949 General Assembly so that, *beginning with 1950 registrations*, this analysis fee must be paid for *every* fertilizer ingredient guaranteed, including not only nitrogen, phosphoric acid and potash but also magnesium, boron or any other added secondary fertilizer component whose percentage is declared on the tags.

"The amended law requires that *all guarantees of fertilizer ingredients other than phosphoric acid and potash must be expressed as the elemental form*; for instance, magnesium and boron must be guaranteed as percentages of magnesium and boron, *not* magnesium oxide and borax. The law also specifies that guarantees of other ingredients than nitrogen, phosphoric acid and potash may be made only by permission of the director of The Connecticut Agricultural Experiment Station, but it will be the policy of this Station to consider the filing of an application for registration as a request for such permission, and permission will normally be withheld only in the case of a fertilizer containing such a quantity of an added secondary fertilizer component as would appear to make the fertilizer likely to be harmful to the crops for which it is designed.

"The amended law requires unacidulated mineral phosphatic materials (phosphate rock) and basic slag to be guaranteed as to both total and available phosphoric acid and the degree of fineness. In interpreting this last requirement, the percentage of fine material will be considered to be the percentage of the fertilizer passing a No. 50 sieve, and the percentage of coarse material will be considered to be the percentage of the fertilizer remaining on a sieve of this fineness. In the case of bone, tankage and other natural organic phosphatic materials only the total phosphoric acid need be guaranteed, but *in no fertilizer may the percentage of total phosphoric acid be used as part of the brand name.*

"A copy of the Fertilizer Law and also the forms for registration are enclosed. Registration forms have been revised to make them as uniform as possible with those of other states and to increase the ease with which they may be filled out. *The requirement that they be notarized has been eliminated.*

"Please notice that forms must be filled out IN TRIPLICATE, and all three copies must be returned to the Station with a check for the analysis fee. The certificate at the bottom of one copy will be filled out at the Station, and this copy will be returned to the applicant and will constitute the certificate of registration.

"JAMES G. HORSFALL, *Director*"

As is noted in the above letter, amendment of the law required revision and a new printing of registration forms. This furnished an opportunity to revise the old forms so as to reduce the amount of paperwork required in their use and to bring them into conformity with the uniform registration blanks recommended by the Association of American Fertilizer Control Officials and in use in many states. A copy of one of the new forms is shown on page 8.

It should be noted that the law in regard to the registration of vegetable meals has not been changed. Cottonseed, linseed, soybean and peanut meals when sold *or used* for fertilizer purposes must be registered as fertilizers and a \$10.00 registration fee paid for each brand. The registration of any of these materials as feeding stuffs does not cover their use for fertilizer purposes, and no claim by a manufacturer that he sold his product for feed purposes only excuses him from the obligation to register it as a fertilizer if any of it is sold or used in this State for fertilizer purposes. In fact, a strict construction of the statute would require the manufacturer to register as fertilizers all his brands of vegetable meals and to pay the fertilizer tonnage tax on all his tonnage sold, except that portion for which he could present a written certificate from the purchaser that "the material bought by him was to be used exclusively for feed and not for fertilizer". In practice, the Station does not insist on this, but requires payment of tonnage taxes only on those tonnages of meal that have been reported to it by local dealers and consumers as having been sold or used as fertilizer. There is no tonnage tax on meals used as feeding stuffs.

Official Definitions of Fertilizer Terms and Materials

For many years the Association of Official Agricultural Chemists adopted definitions and standards for fertilizer terms and fertilizer materials that were recognized by control officials of most of the states as being binding in enforcement of the fertilizer laws. In 1948 the Association relinquished the duty of preparing such standards to the newly organized Association of American Fertilizer Control Officials. Copies of the official publication of the Association of Ameri-

CONNECTICUT REGISTRATION BLANK FOR COMMERCIAL FERTILIZERS

Connecticut Agricultural Experiment Station,
Box 1106,
New Haven 4, Conn.

Application is hereby made for the registration of brands or grades of Commercial Fertilizers in Connecticut, under Chapter 319 of the General Statutes of Connecticut, for a period beginning with the actual date of registration and ending December 31, 195....., under a label guarantee and declaration of which the following is an exact copy. A check for \$..... is enclosed, which is at the rate of \$10.00 for each fertilizer component guaranteed in each brand or grade.

Reports on the tonnage of each brand sold will be made on or before July 1, 195....., and January 1, 195....., and the Director of the Connecticut Agricultural Experiment Station or his authorized deputy will be permitted to verify these reports if he considers it necessary.

NAME, BRAND OR TRADEMARK OF FERTILIZER OR CHEMICAL	GUARANTEED MINIMUM ANALYSIS, PER CENT.			
	Nitrogen Total	Phosphoric Acid		Potash Water-Sol.
		"Available"	Total	
				Other Components

..... certifies that the information appearing above is true and correct in every respect; that each and every package and bulk shipment of the above named Commercial Fertilizer will conform with the above declaration; that the above declaration is the guarantee of the applicant as to the chemical composition of the above named; that such registration shall not be deemed to apply to the sales of said material in said state made before or after actual period of registration; and that this application is made for and in behalf of..... (city)..... (state).....

..... (street).....

..... Name of Applicant.

..... Name and official position of person signing.

CERTIFICATE OF REGISTRATION

(Not legal until signed)

This certifies that the above named applicant is hereby licensed to sell the above brands of Commercial Fertilizers in the State of Connecticut for a period beginning with the actual date of registration and ending December 31, 195....., when sold, offered or exposed for sale under the brand names and guarantees exactly as they appear above.

Date.....
Registration No.

Connecticut Agricultural Experiment Station

By.....

APPLICATIONS MUST BE FILED IN TRIPLICATE

can Fertilizer Control Officials containing the present official definitions may be obtained from the secretary-treasurer, B. D. Cloaninger, Drawer 392, Clemson, South Carolina.

In connection with complaints that the requirement of the Connecticut law that secondary fertilizer components be declared as percentages of the elements instead of as percentages of some compound of the element was out of line with practices elsewhere, it is worth while to call attention to the fact that the following regulation has been recognized by the two national associations of fertilizer control officials since 1944:

"All fertilizer components, with the exception of potash (K_2O) and phosphoric acid (P_2O_5) if guaranteed, shall be stated in terms of the elements."

REGISTRATIONS

Late Registrations for 1949

To the brands registered for 1949 in our last report should be added the following:

The Boswell Co., 171 Blackland Rd., N.W., Atlanta, Ga.

Pure Gold Cottonseed Meal 41% Protein

Registrations for 1950

For 1950, 78 firms and individuals registered 337 brands of fertilizers at this Station for sale in the State. As required by statute, the brands are listed as follows:

Adco Works, Carlisle, Pa.

Vivo

Agricultural Supply Co., 221 Richmond St., West Haven, Conn.

Yale Special Mixture

Ted Alkire, 419 Avenue O, Lubbock, Texas

Kireal Cotton Hull Ash

Allied Chemical & Dye Corp., The Barrett Div., 40 Rector St., New York 6, N. Y.

A-N-I Brand Fertilizer Compound

Arcadian the American Nitrate of Soda

Barrett Ammonium Nitrate Fertilizer

Standard Urea Fertilizer Compound

Sulphate of Ammonia

The American Agricultural Chemical Co., 285 River St., No. Weymouth 91, Mass.

AA Quality Fertilizer 0-14-14

AA Quality Fertilizer 3-12-6

AA Quality Fertilizer 3-12-12

AA Quality Fertilizer 4-12-4

AA Quality Fertilizer 5-5-15

AA Quality Fertilizer 5-8-7

AA Quality Fertilizer 5-10-5

AA Quality Fertilizer 5-10-10

AA Quality Phosphate Rock Ground Florida Pebble

Agrico Country Club Fertilizer 6-10-4

Agrico Country Club Fertilizer 8-6-2

Agrico for Broadleaf Evergreens 6-10-4

Agrico for Corn 3-12-6

Agrico for Corn 4-12-4

Agrico for Gardens 5-10-5

Agrico for Lawns, Trees and Shrubs 6-10-4

Agrico for New England 5-8-7

Agrico for Potatoes 5-10-10-2

Agrico for Seeding Down 3-12-12

Agrico for Tobacco 6-3-6

Agrico for Top Dressing 7-7-7

Agrico for Truck 5-10-5

Agrico for Turf 50% Organic Fertilizer 6-8-2

Agrico Phosphate and Potash 0-14-14

Agrinite

Bone Meal

Muriate of Potash

18% Normal Superphosphate

Pulverized Sheep Manure

American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.

20.6% AERO Cyanamid, Granular
AERO Cyanamid, Special Grade
AERO-PHOS Florida Natural Phosphate
AEROPRILLS Ammonium Nitrate Fertilizer

Apothecaries Hall Co., 28 Benedict St., Waterbury, Conn.

Bone Meal 2.25
Bone Meal 3.70
Castor Pomace
Cotton Hull Ashes
Dry Ground Fish
Liberty Fertilizer 0-14-14
Liberty Fertilizer 0-20-20
Liberty Fertilizer 3-12-12
Liberty Fertilizer 4-12-4
Liberty Fertilizer 5-10-5
Liberty Fertilizer 5-10-10
Liberty Fertilizer 5-10-10 with 1.2% Magnesium
Liberty Fertilizer 6-8-8
Liberty Green Gro Fertilizer 6-7-4
Liberty High Grade Market Gardeners 5-8-7
Liberty High Grade Market Gardeners with 1.2% Magnesium 5-8-7
Liberty High Grade Market Gardeners with Sulphate of Potash 5-8-7
Liberty Landscape and Golf Course
Liberty Special for Fruit and Grass 7-7-7
Liberty Tobacco Mixture 6-3-6
Liberty Tobacco Mixture with Castor Pomace
Liberty Tobacco Mixture with Cotton Hull Ashes
Liberty Tobacco Starter 4-10-0
Liberty Tobacco Starter 5-5-15
Muriate of Potash
Nitrate of Potash
Precipitated Bone
Sheep Manure
Sulphate of Ammonia
Sulphate of Potash
Superphosphate Granular
Superphosphate Pulverized 20%

Archer-Daniels-Midland Co., 600 Roanoke Bldg., Minneapolis, Minn.

Archer Quality 32% Protein Expeller Linseed Oil Meal (Fertilizer)

Armour Fertilizer Works, 120 Broadway, New York 5, N. Y.

Armour's Big Crop Fertilizer 0-14-14
Armour's Big Crop Fertilizer 5-8-7
Armour's Big Crop Fertilizer 5-10-10
Armour's Big Crop Fertilizer 5-10-10 with 1.2% Mg.
Armour's Big Crop Fertilizer 7-7-7
Armour's Big Crop Fertilizer 8-16-16¹
Armour's Big Crop Fertilizer 20% Superphosphate
Armour's Big Crop Fertilizer Tobacco Special 6-3-6
Armour's Bone Meal Fertilizer
Armour's Pulverized Sheep Manure
Armour's Special Ornamental Fertilizer
Armour's Vertagreen Plant Food 5-10-5

Ashcraft-Wilkinson Co., Trust Co. of Georgia Bldg., Atlanta 3, Ga.

Cow-Eta Brand 41% Protein Cottonseed Meal
44% Protein Soybean Oil Meal Lou Soy Bran

¹ Later substituted by Armour's Big Crop Tobacco Starter 5-5-15.

Associated Seed Growers, Inc., Railroad Ave., Milford, Conn.

Asgrow Lawn Food
Clark's Tip Top 5-8-7 Fertilizer
Japedizer

Atkins & Durbrow, Inc., 165 John St., New York 7, N. Y.

DRICONURE

The F. A. Bartlett Tree Expert Co., 60 Canal St., Stamford, Conn.

Bartlett Green Tree Food

The Boswell Co., 171 Blackland Rd., N. W., Atlanta, Ga.

Pure Gold Cottonseed Meal 41% Protein

The Buckeye Cotton Oil Co., 6th & Main Sts., Cincinnati, Ohio

Buckeye 41% Protein Cottonseed Meal for Fertilizer

Central Chemical Corp., Lebanon, Pa.

Farmrite Bone Meal
Farmrite Cow Manure
Farmrite Gardenrite
Farmrite Rose Food
Farmrite Sheep Manure
Farmrite Sulfate of Ammonia

Chilean Nitrate Sales Corp., 120 Broadway, New York 5, N. Y.

Chilean Nitrate of Soda—Champion Brand

Consolidated Rendering Co., 178 Atlantic Ave., Boston 10, Mass.

Corenco 0-14-14 Top Dresser
Corenco 4-12-4 Complete Manure
Corenco 4-12-16 Ladino Special
Corenco 5-8-7 Potato and General Crop
Corenco 5-10-5 Home Garden
Corenco 5-10-5 Onion Special—Super Truck
Corenco 5-10-10 Peerless Potato
Corenco 5-10-10-1.2
Corenco 6-3-6 Special Tobacco Grower
Corenco 6-8-8
Corenco 7-7-7 Complete Fruit and Top Dressing
Corenco 8-6-4 Landscape
Corenco 8-16-16
Corenco Ground Bone
Corenco Sheep Manure
Corenco Special Ground Bone
Corenco Spurz-on
Corenco Superphosphate 20%
Muriate of Potash

The Davey Tree Expert Co., 117 S. Water St., Kent, Ohio

Davey Shredded Manure
Davey Tree Food

R. G. Davis & Sons, 560 Grand Ave., New Haven, Conn.

"Organo"

The Davison Chemical Corp., Charles & Fayette Sts., Baltimore 3, Md.

Davco Granulated Fertilizer 0-14-14
Davco Granulated Fertilizer 5-8-7
Davco Granulated Fertilizer 5-10-5
Davco Granulated Fertilizer 5-10-10
Davco Granulated Fertilizer 7-7-7
Davco Granulated Superphosphate 20%

The Doggett-Pfeil Co., 642 Morris Turnpike, Springfield, N. J.

Clay's Fertilizer
D & P Rose Food

The Doughten Seed Co., 151 Twelfth St., Jersey City 2, N. J.

Faith Soil Food with Insect Control

E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del.

DU PONT NU GREEN Fertilizer Compound
DU PONT URAMON Fertilizer Compound

Eastern States Farmers' Exchange, Inc., 26 Central St., West Springfield, Mass.

Castor Pomace
Eastern States 0-19-19 W/Borax
Eastern States 0-20-20
Eastern States 5-10-10-0.6
Eastern States 5-15-10-0.6
Eastern States 5-15-15-0.6
Eastern States 6-4-6-1.2 Tobacco
Eastern States 8-4-8-1.2 Tobacco
Eastern States 8-12-12-1.2 L.C.S.
Eastern States 8-12-12-1.2 S.M.
Eastern States 8-16-16-0.6
Eastern States 10-10-10-0.6
Eastern States Muriate of Potash
Eastern States Plant Starter
Eastern States Sulfate of Potash
Eastern States Superphosphate—Granulated and Pulverized
Sulfate of Ammonia

The Espoma Co., P.O. Box 108, Millville, N. J.

Espoma
Holly-Tone

Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.

F & B High Organic Pelletized All-Purpose 6-12-6
Pure Bone Meal
Raw Bone Meal
Rose Food 8-10-4

Ford Motor Co., 3000 Schaefer Road, Dearborn, Mich.

Ford Ammenium Sulphate

Fox Point Chemical Co., 49 Valley St., E. Providence, R. I.

Old Fox Brand 0-14-14
Old Fox Brand 0-20-0
Old Fox Brand 4-12-8
Old Fox Brand 5-8-7
Old Fox Brand 5-10-10-0.6
Old Fox Brand 7-7-7

Frank's Market Garden, 1398 Allen St., Springfield, Mass.

F. M. G. For More Growth

Goulard & Olena, Inc., Skillman, N. J.

G & O Dahlia-Lily-Gladiola 5-6-15
G & O Ground Bone Fertilizer
G & O 10-6-4 High Organic Fairway
G & O Rose Food

Heeman Manufacturing Co., 515 Palmer St., Wooster, Ohio

Wooster Lawn Builder

A. H. Hoffman, Inc., Landisville, Lancaster County, Pa.

Hoffman Cow Manure (Dehydrated)

Hoffman Sheep Manure (Kiln-Dried)

Hoover Soil Service, Gilman, Ill.

A Soft Phosphate with Colloidal Clay

Humphreys-Godwin Co., 2246 Park Ave., Memphis, Tenn.

Dixie Brand 41% Cottonseed Meal

Imperial Commodities Corp., 70 Pine St., New York 5, N. Y.

Prime 41% Protein Cottonseed Meal

International Minerals & Chemical Corp., P. O. Box 230, Woburn, Mass.

International 5-8-7-0.6

International 5-10-10-0.6

International 20% Superphosphate

International Tobacco Starter 5-5-15

Robin Jones Phosphate Co., 804 Church St., Nashville, Tenn.

Arrow Brand finely ground rock phosphate

Spencer Kellogg & Sons, Inc., 98 Delaware Ave., Buffalo 5, N. Y.

Castor Pomace

Spencer Kellogg's 34% Protein Old Process Linseed Oil Meal

Libner Grain Co., Inc., 25 Commerce St., Norwalk, Conn.

Fine Ground Bone Meal

L. B. Lovitt & Co., 314 Cotton Exchange Bldg., Memphis, Tenn.

"Lovit Brand" 36% Protein Cottonseed Meal

"Lovit Brand" 41% Protein Cottonseed Meal

The Mamlon Co., 1089 Whalley Ave., New Haven 15, Conn.

FER-MEL Water Soluble Turf Food

Marianna Sales Co., 510 Cotton Exchange Bldg., Memphis, Tenn.

"WHITE MULE BRAND" 41% Protein Cottonseed Meal

McCormick & Co., Inc., McCormick Bldg., Baltimore 2, Md.

HY-GRO

"Na-Churs" Plant Food Co., 121 Garden St., Marion, Ohio

"Na-Churs" Liquid Fertilizer 5-10-5

Norwood Brand Fertilizer Co., No. Reading, Mass.

Norwood Brand Sheep Manure

Old Deerfield Fertilizer Co., Inc., 20 Sugarloaf St., So. Deerfield, Mass.

Double Sulphate of Potash Magnesia

Old Deerfield Castor Pomace

Old Deerfield Cotton Hull Ash 35%

Old Deerfield Dry Ground Fish

Old Deerfield Lawnshrub Fertilizer 6-5-5

Old Deerfield Muriate of Potash 60%

Old Deerfield 20% Superphosphate

Old Deerfield 5-5-15 Tobacco Starter

Old Deerfield 5-8-7

Old Deerfield 5-10-5

Old Deerfield 5-10-10

Old Deerfield 6-3-6 Complete Tobacco

Old Deerfield 7-7-7 Fertilizer

Precipitated Bone

Triple Superphosphate

Olds & Whipple, Inc., 168 State St., Hartford, Conn.

Horn and Hoof Meal
 Muriate of Potash 60%
 Nitrate of Potash
 O & W Bone Meal
 O & W Castor Pomace
 O & W Cotton Hull Ash
 O & W Menhaden Dry Ground Fish
 O & W Sulphate of Potash
 O & W Superphosphate
 O & W Triple Superphosphate
 O & W Uramon Fertilizer Compound
 O & W 0-14-14 Fertilizer
 O & W 4-8-4 Complete Lawn Grass Fertilizer
 O & W 4-12-4 Market Garden Fertilizer
 O & W 5-3-5 Complete Tobacco Fertilizer Potash derived from Cotton Hull Ash
 O & W 5-5-15 High Grade Tobacco Starter and Potash
 O & W 5-8-6 Luxura
 O & W 5-8-7 Potato and General Purpose Fertilizer
 O & W 5-8-7 Potato and General Purpose Fertilizer with Sulphate of Potash
 O & W 5-10-10 Potato Fertilizer
 O & W 5-10-10 Potato Fertilizer 1.2% Mg
 O & W 6-3-6 Blue Label Tobacco Fertilizer
 O & W 6-3-6 Blue Label Tobacco Fertilizer Potash derived from Cotton Hull Ash W/0.13 Cu
 O & W 6-3-6 Pomace Base Fertilizer Potash derived from Cotton Hull Ash
 O & W 7-7-7 Top Dressing and Grass Fertilizer
 Precipitated Bone Phosphate
 Sulphate of Potash and Magnesia

Owensboro Grain Co., Inc., 115 Center St., Owensboro, Ky.

OGRACO Solvent Extracted Soybean Oil Meal

Perkins Oil Co., 727 Beale Ave., Memphis, Tenn.

Golden Rod Brand 41% Protein Cottonseed Meal — Prime Quality

The Frank S. Platt Co., Inc., 450 State St., New Haven, Conn.

Platt's Special 10-5-5 Lawn Fertilizer

Premier Peat Moss Corp., 535 Fifth Ave., New York 17, N. Y.

Premier-Nure

The Pulverized Manure Co., 503 Exchange Bldg., Chicago 9, Ill.

Wizard Brand Cow Manure
 Wizard Brand Pulverized Sheep Manure

Ra-Pid-Gro Corp., 88 Ossian St., Dansville, N. Y.

Ra-Pid-Gro

Ray & King, 211 Ave. M, Lubbock, Tex.

Cotton Bur Ashes

Riverside Oil Mill, Marks, Miss.

Expello Brand 41% Protein Cottonseed Meal or Cake

The Rogers & Hubbard Co., Bank St., Portland, Conn.

Castor Pomace
 Dry Ground Fish
 DuPont Aluminum Sulphate
 Gro-Fast Bone Meal
 Gro-Fast Cow Manure
 Gro-Fast Plant Food
 Gro-Fast Sheep Manure

The Rogers & Hubbard Co., Bank St., Portland, Conn.—Cont'd.

Hubbard Alfalfa Fertilizer
Hubbard Alfalfa Fertilizer 0-14-14 W/0.55 Boron
Hubbard Corn Fertilizer
Hubbard Double Strength Fertilizer
Hubbard Garden Fertilizer
Hubbard General Crop Fertilizer 1.2 Mg
Hubbard Golf Course Fertilizer
Hubbard High Potash Fertilizer
Hubbard Potato Fertilizer 1.2 Mg
Hubbard Seeding Fertilizer
Hubbard Tobacco Grower
Hubbard Tobacco Starter
Hubbard Top Dressing Fertilizer
Hubbard Vegetable Fertilizer 5-8-7
Hubbard Vegetable Fertilizer 5-8-7-1.2
Hubbard Weed-Kil Lawn Food
Muriate of Potash
Sulphate of Ammonia
Superphosphate

Rose Manufacturing Co., 6 Main St., Beacon, N. Y.

Triogen Rose Food

Ruhm Phosphate & Chemical Co., 8 So. Michigan Ave., Chicago, Ill.

Red Seal Brand Ruhm's Phosphate Rock

Saratoga Laboratories, Inc., National Bank Bldg., Saratoga Springs, N. Y.

Trace L

O. M. Scott & Sons Co., Marysville, Ohio

Scott's Turf Builder
Scott's Weed & Feed

Sears, Roebuck and Co., 925 S. Homan Ave., Chicago 7, Ill.

Cross Country Bulb Food
Cross Country Plant Food
Cross Country Rose Food
Cross Country Sheep Manure

Sessions Oil Mills, No. Main St., Enterprise, Ala.

Sesco 45% Protein Solvent Extracted Peanut Meal

Sewerage Commission of the City of Milwaukee, P. O. Box 2079, Milwaukee, Wis.

Milorganite

M. L. Shoemaker, Inc., Div. Wilson & Co., Delaware Ave. & Venango St., Philadelphia 34, Pa.

M. L. Shoemaker's "Swift-Sure" Tobacco Starter

The Smith Agricultural Chemical Co., 618 No. Champion Ave., Columbus 16, Ohio

Sacco Plant Food
Wedo with 2,4-D

Wendell S. Still, Middle Country Rd., Selden, N. Y.

Farmanure

Stumpp & Walter Co., 132 Church St., New York 8, N. Y.

Sawco Acidulous Fertilizer
Sawco Bone Fertilizer
Sawco Bulb Fertilizer
Sawco Cottonseed Meal

Stumpp & Walter Co., 132 Church St., New York 8, N.Y.—Cont'd.

Sawco Dried Blood
Sawco Economy Fertilizer
Sawco Emerald Grass Fertilizer
Sawco General Garden Fertilizer
Sawco Nitrate of Soda
Sawco Rose Food
Sawco Superphosphate
Sawco Treewiz
Sawconure

Summers Fertilizer Co., Inc., 604 Stock Exchange Bldg., Baltimore, Md.

"Summers" Best-On-Earth 0-20-20 Fertilizer
"Summers" Best-On-Earth 5-8-7 Fertilizer Extra Organic
"Summers" Best-On-Earth 10-5-5 Fertilizer

Swift & Co., 25 Faneuil Hall Sq., Boston 9, Mass.

Blenn
Brimm
Red Steer 0-20-0
Red Steer 5-8-7
Red Steer 5-10-5
Red Steer 10-6-4
Sheep Manure
Swift's 41% Cottonseed Meal, Prime Quality
Vigoro 4-12-4
Vigoro 5-10-5
Vigoro Commercial Grower 7-7-7

Tennessee Corp., Lockland, Cincinnati 15, Ohio

Loma 5-10-5
Loma 8-8-8 Mineralized

I. P. Thomas & Son Co., 721 Market St., Camden, N. J.

50% Muriate of Potash
20% Superphosphate
I. P. Thomas 5-8-7
I. P. Thomas 5-10-5
I. P. Thomas 5-10-10
I. P. Thomas 7-7-7
I. P. Thomas 7-7-7-1.2
I. P. Thomas 8-16-16

Thomason Phosphate Co., 407 So. Dearborn St., Chicago 5, Ill.

Four Leaf Powdered Rock Phosphate

The Van Iderstine Co., 37-30 Review Ave., Long Island City, N. Y.

Vico Steamed Bone Meal—Fertilizer

Walker-Gordon Laboratory Co., Plainsboro, N. J.

Bovung

Garfield Williamson, Inc., 1072 Westside Ave., Jersey City, N. J.

Plantspur

F. H. Woodruff & Sons, Inc., Depot St., Milford, Conn.

Gro-Sod-Lawn Food

Woodruff Fertilizer Works, Inc., Sackett Point Rd., No. Haven, Conn.

Baker's Castor Pomace
Muriate of Potash 60%
Superphosphate 20%

Woodruff Fertilizer Works, Inc., Sackett Point Rd., No. Haven, Conn.—Cont'd.

Woodruff's 0-14-14 Fertilizer
Woodruff's 5-8-7 Fertilizer
Woodruff's 5-8-10 Fertilizer
Woodruff's 5-10-10 Fertilizer
Woodruff's 7-7-7 Fertilizer
Woodruff's 8-16-16 Fertilizer
Woodruff's 10-6-4 Lawn & Tree Food
Woodruff's Tobacco Fertilizer 6-3-6
Woodruff's Tobacco Starter 5-5-15

FERTILIZER INSPECTION FOR 1950

The Connecticut fertilizer law does not provide for compulsory limitation of the grades of fertilizers that may be sold in this State, nor does any other New England state have such legal restrictions. The New England agronomists have, however, from time to time compiled lists of recommended fertilizer ratios and minimum grades that, in their opinion, would meet all the requirements of New England agriculture. To a large extent manufacturers supplying the Connecticut market have abided by these suggestions, as is shown by the fact that in recent years about 85 per cent of the mixed fertilizer tonnage sold in Connecticut has been of approved grades.

At the annual New England Fertilizer Conference, which this year was held at this Station on February 27 and 28, the New England agronomists agreed on a list of fertilizer ratios and minimum grades, of which the following were applicable to Connecticut conditions:

<i>Ratio</i>	<i>Minimum Grade</i>
0-1-1	0-14-14
1-1-1	7- 7- 7
1-1-3	5- 5-15
1-2-1	5-10- 5
1-2-2	5-10-10
2-1-2	6- 3- 6
3-4-4	6- 8- 8
5-8-7	5- 8- 7

During the season the Station agents have collected samples of all registered brands that could be found on the market. Certain registered fertilizer materials, particularly vegetable meals, are purchased almost wholly by tobacco growers for direct shipment in carload lots from outside the State. Most tobacco growers submit samples of their purchases to this Station for analysis but, because such samples are not officially taken, the results of these analyses are not included in this report. The following tabulation does, however, list the total number of samples analyzed, both official and unofficial, of each class of fertilizer, as well as the tonnage sold in the period between July 1, 1949 and June 30, 1950. These tonnage figures do not include fertilizer distributed under the Federal Agricultural Adjustment Program.

CLASSIFICATION OF FERTILIZER MATERIALS AND FERTILIZER TONNAGE

(Tonnage is for the period July 1, 1949 to June 30, 1950)

	Page	No. of samples	Tonnage
I. Containing chiefly nitrogen:			
Nitrate of ammonia	26	5	287
Nitrate of soda	26	13	1,172
Sulphate of ammonia	26	1	26
Cyanamid and urea	27	9	180
Castor pomace	27	10	5,840
Cottonseed meal	28	151	9,301
Horn and hoof meal	29	3	88
Linseed meal	29	20	897
Peanut meal	30	3	70
Soybean meal	30	3	170
Dried blood	28	2	...
Other materials	26	1	140
			18,171
II. Containing chiefly phosphoric acid:			
Superphosphate 18%	32	2	901
20%	32	18	5,165
47%	32	1	18
Precipitated bone	33	9	459
Phosphate rock	33	2	318
			6,861
III. Containing chiefly potash:			
Muriate of potash	31	10	1,111
Sulphate of potash	31	5	175
Sulphate of potash-magnesia	1	59
Cottonhull ashes	31	18	1,318
			2,663
IV. Containing nitrogen and phosphoric acid:			
Dry ground fish	34	14	974
Ground bone	34	25	896
Other materials	35	2	723
			2,593
V. Containing nitrogen and potash:			
Nitrate of potash	3	218
			218
VI. Mixed fertilizers:			
Commercial mixtures	36	224	53,092 ¹
Special and home mixtures	110	324
			53,416
VII. Miscellaneous:			
Borax	8
Sheep manure, etc.	50	19	857
Limestone and similar materials	52	35	...
Fertilizers sold in small packages	56	44	...
Other miscellaneous materials ..	54	34	...
Check meals and fertilizers	27	...
			865
Totals		824	84,787

¹ For distribution of this tonnage see next page.

Mixed Fertilizer Tonnage*Grades Approved for Connecticut*

<i>Grade</i>	<i>Tons</i>	<i>Grade</i>	<i>Tons</i>
0-14-14	1,330	6- 3- 6	15,754
0-19-19	486	6- 8- 8	643
0-20-20	682	7- 7- 7	3,372
5- 5-15	619	8- 4- 8	899
5- 8- 7	9,489	8- 8- 8	3
5-10- 5	1,225	8-16-16	989
5-10-10	8,795	10-10-10	719
			<hr/>
			Total 45,005

*Other Grades**(More than 50 tons)*

3-12- 6	295	6- 7- 4	162
3-12-12	197	6- 8- 6	132
4- 8- 4	55	6-10- 4	312
4-10- 0	314	8- 6- 2	285
4-12- 4	2,776	8- 6- 4	440
5- 3- 5	456	8-12-12	801
5- 8-10	64	9- 7- 4	323
5-15-10	621	10- 5- 5	70
5-15-15	270	10- 6- 4	154
6- 4- 6	137		
			<hr/>
			Total 7,864

(Less than 50 tons)

0.9-0.9-0.9	2	6- 5- 5	6
3- 2- 1	9	6- 8- 2	8
3.5-3.5-1.5	26	6-12- 6	3
4- 4- 2	25	7- 8- 5	12
4- 6- 4	1	7-11- 5	41
4- 8- 0	7	8-16- 7	3
4-12- 8	7	10-52-17	1
4-12-16	30	12- 4- 4	13
5- 6-15	3	13-26- 3	1
5- 8- 3	3	17-34-16	1
5- 8- 6	16	23-21-17	2
5- 9- 4	2	25-15-10	1
			<hr/>
			Total 223

Grand Total 53,092

I. Raw Materials Chiefly Valuable for Nitrogen

Sulphate of ammonia may still be the cheapest readily available source of nitrogen, but very little of this material is sold in Connecticut for use as such. Somewhat more than a thousand tons of nitrate of soda were purchased for fertilizer use in Connecticut during 1950, but 90 per cent of the primarily nitrogenous fertilizers consumed during this season (16,278 tons) were vegetable meals. The reason for this is that production of cigar wrapper tobacco of the

proper quality requires fertilization with nitrogen in a natural organic form, and the tobacco growers are the heaviest consumers of fertilizer in the State.

Analyses of the 62 official samples of nitrogenous fertilizers are given in Table 1. Ninety-four per cent of these substantially met their guaranties. The total number of cottonseed meal samples analyzed was 151, but 85 per cent of these were samples taken by the growers themselves from carload lots shipped to them directly from sources outside the State.

II. Raw Materials Chiefly Valuable for Phosphoric Acid

Analyses of 14 official samples of 20 per cent superphosphate, two of the 18 per cent grade and one of the "triple" superphosphate, are given in Table 3. One sample of each grade was below guaranty. Two samples each of precipitated bone and phosphate rock met their guaranties.

III. Raw Materials Chiefly Valuable for Potash

Ten official samples of muriate of potash, two of sulphate of potash, and five of cottonhull ashes, were analyzed. All samples except one of cottonhull ashes met their guaranties.

Analyses are given in Table 2.

IV. Raw Materials Supplying Nitrogen and Phosphoric Acid

This group comprises chiefly dry ground fish and ground bone. Four official samples of dry ground fish considerably exceeded their guaranties for both nitrogen and phosphoric acid; of 16 samples of ground bone, 13 met all guaranties. Two samples of "Milorganite", a treated sewage sludge, both met their guaranties.

Analyses are given in Table 4.

V. Raw Materials Supplying Nitrogen and Potash

There is only one fertilizer material falling in this class, namely, nitrate of potash. Fertilizer grade nitrate of potash must contain not less than 12 per cent of nitrogen and 44 per cent of potash. No official sample of this material was collected this year, but three unofficial samples were analyzed.

VI. Mixed Fertilizers

Commercial Mixtures

Analyses of 205 official samples of mixed fertilizers are given in Table 5. Results are summarized as follows:

Total number of samples	205	
Samples deficient in:		
one item	61	
two items	9	70
Percentage of samples meeting guaranties	66	
Total guaranties made	630 ¹	
Guaranties not met:		
nitrogen	49	
phosphoric acid	16	
potash	14	79
Percentage met	87	

Eighty-seven per cent of all guaranties were substantially met or exceeded.

This was the first year in which the amended fertilizer law of 1949 became effective. Previously no additional registration fees were required when secondary fertilizer components such as magnesium and boron were declared, and usually fertilizers containing such added ingredients were analyzed only for nitrogen, phosphoric acid and potash. The new law required payment of the same \$10.00 fee for a guaranty of magnesium as for a guaranty of nitrogen, phosphoric acid or potash, and further required that such guaranty be made in terms of percentage of the element. For example, magnesium had to be declared as percentage of magnesium, not magnesium oxide, and boron as boron and not as borax. Because manufacturers were not yet familiar with the new law, some latitude in the labelling of tags was permitted, and the recall of tags that bore guaranties of magnesia instead of magnesium or of borax instead of boron was not insisted on. In compiling Table 5 all such guaranties have been recalculated to the bases of the elements.

One mixed fertilizer, "Loma 8-8-8 Mineralized", manufactured by the Tennessee Corporation of Cincinnati, Ohio, was registered with guaranties for eight components (nitrogen, phosphoric acid, potash, manganese, copper, iron, zinc and boron).

Special and Home Mixtures

One hundred and nine samples of special and home mixtures were analyzed during the year, the great majority for tobacco growers. Because the composition of these samples is not a matter of public interest, their analyses are not tabulated in this bulletin.

State Purchases of Fertilizer

Raw materials and mixed goods supplied to State institutions on State purchase orders are regularly included in our usual inspection.

¹ One hundred and sixty-four samples with three guaranties; 25 samples with four guaranties; 15 samples with two guaranties; and one sample with eight guaranties.

Fertilizers so supplied are subject to registration and tonnage tax (unless supplied to The Connecticut Agricultural Experiment Station for experimental purposes).

Samples representing State purchases are indicated in the several tables. They are summarized as follows:

<i>Materials</i>	<i>No. of Samples</i>	<i>Reference</i>
Supplying nitrogen	7	Table 1
Supplying phosphoric acid	3	Table 3
Supplying potash	2	Table 2
Supplying nitrogen and phosphoric acid	3	Table 4
Mixed fertilizers	29	Table 5
Total	44	

VII. Miscellaneous

Sheep and other cattle manures. Sixteen official samples of sheep manure and other dried manures were analyzed; all except one equalled or exceeded their guaranties. Analyses are given in Table 6.

Limestone and similar materials. The Connecticut fertilizer law specifically exempts "marl and lime" from its registration and other requirements, and consequently no regular inspection of liming materials is made. Occasional samples are analyzed for farmers or state or federal agencies, and analyses of 35 such samples are given in Table 7. On 25 of these samples more extended analyses for minor impurities were made for the State Development Commission in connection with investigations to locate suitable sources of supply of limestone for the proposed New London steel mill.

Fertilizers sold in small packages. Fertilizers sold only in packages of 10 pounds or less are not required to be registered. No attempt, therefore, is made to analyze all brands of such fertilizers on the market, but such of them as come to the attention of our agents are sampled and analyzed as a matter of interest. During the 1949-1950 season, 44 samples were analyzed, of which 33, or 75 per cent, met their guaranties. Analyses are given in Table 9.

Other miscellaneous materials. Thirty-four other miscellaneous products were examined; analyses of 31 of them are given in Table 8.

Check meals and fertilizers. Collaboration was continued with the check analysis program sponsored by the American Oil Chemists' Society and the F. S. Royster Guano Company, a total of 27 samples being analyzed.

MAINTENANCE OF GUARANTIES

The maintenance of guaranties as compiled from analyses of official samples of ingredient materials and mixed goods (Tables 1-6) is shown in the following tabulation. Deficiencies of 0.1 per cent or less

in nitrogen or 0.2 per cent or less in phosphoric acid and potash are not considered. The proportion of guaranties substantially met was 88 per cent.

	No. of samples	No. of guaranties	Deficiencies
Agrinite	1	1	0
Nitrate of ammonia	3	3	1
Nitrate of soda	8	8	1
Sulphate of ammonia	1	1	0
Cyanamid	5	5	2
Urea	4	4	1
Castor pomace	7	7	0
Dried blood	1	1	0
Cottonseed meal	23	23	1
Horn and hoof meal	1	1	0
Linseed oil meal	5	5	0
Peanut meal	1	1	0
Soybean oil meal	2	2	0
Superphosphate	17	17	3
Precipitated bone	2	2	0
Phosphate rock	2	2	0
Muriate of potash	10	10	0
Sulphate of potash	3	3	0
Cottonhull ashes	5	5	1
Dry ground fish	4	8	0
Ground bone	16	32	3
Milorganite	2	4	0
Mixed fertilizer	205	630	79
Totals	328	775	92
Per cent guaranties met			88

TABLE 1. ANALYSES OF MATERIALS SUPPLYING CHIEFLY NITROGEN¹

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent nitrogen	
			Found	Guaranteed
Agrinite				
1901	The American Agricultural Chemical Co., No. Weymouth, Mass.	Bridgeport: Willis Seed Store	8.62	8.25
Nitrate of Ammonia				
1833 ²	A-N-L. Allied Chemical & Dye Corp., New York, N. Y.	Woodbridge: Louis Sticco ..	21.00	20.50
2262 ³	AEROPRILLS. American Cyanamid Co., New York, N. Y.	Mansfield Depot: Mansfield Training School	33.25	33.50
2306	AEROPRILLS. American Cyanamid Co., New York, N. Y.	North Haven: Woodruff Fertilizer Works, Inc. ...	33.92	33.50
Nitrate of Soda				
2318	Arcadian, The American. Allied Chemical & Dye Corp., New York, N. Y. ..	Pawcatuck: The C. W. Campbell Co.	16.28	16.00
2402	Arcadian, The American. Allied Chemical & Dye Corp., New York, N. Y. ..	Portland: The Rogers & Hubbard Co.	16.20	16.00
1873	Chilean, Champion Brand. Chilean Nitrate Sales Corp., New York, N. Y. ..	Hamden: Henry D. Peters & Son	16.00	16.00
1927 ⁸	Chilean, Champion Brand. Chilean Nitrate Sales Corp., New York, N. Y. ..	Middletown: Conn. State Hospital	15.84	16.00
2073	Chilean, Champion Brand. Chilean Nitrate Sales Corp., New York, N. Y. ..	Norwalk: Libner Grain Co., Inc.	16.00	16.00
2232 ³	Chilean, Champion Brand. Chilean Nitrate Sales Corp., New York, N. Y. ..	Southbury: Southbury Training School ..	16.00	16.00
2249	Chilean, Champion Brand. Chilean Nitrate Sales Corp., New York, N. Y. ..	Wilson: Christensen Rand, Inc.	16.00	16.00
2463	Sawco. Stumpp & Walter Co., New York, N. Y.	Stamford: Stumpp & Walter Co.	16.00	15.00
Sulphate of Ammonia				
2006	The Rogers & Hubbard Co., Portland, Conn.	Cromwell: A. N. Pierson, Inc.	21.06	20.50

¹ Deficiencies are in bold face type.² Found: nitrogen in nitrates, 10.58%; nitrogen in ammonia, 10.42%; magnesium guaranteed 4.22%, found 4.51%.³ State purchases.

TABLE 1. ANALYSES OF MATERIALS SUPPLYING CHIEFLY NITROGEN¹

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent nitrogen	
			Found	Guaranteed
Cyanamid				
1837 ²	20.6% AERO. American Cyanamid Co., New York, N. Y.	Cheshire: Conn. Reformatory	20.68	20.60
1926 ²	20.6% AERO. American Cyanamid Co., New York, N. Y.	Middletown: Conn. State Hospital	20.10	20.60
1961	20.6% AERO. American Cyanamid Co., New York, N. Y.	North Haven: Joseph Beach	20.60	20.60
2261 ²	20.6% AERO. American Cyanamid Co., New York, N. Y.	Mansfield Depot: Mansfield Training School	20.74	20.60
2498	20.6% AERO. American Cyanamid Co., New York, N. Y.	West Suffield: H. L. Oppenheimer & Son	19.86	20.60
Urea				
1931	DU PONT NU GREEN Fertilizer Compound. E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.	North Haven: Eastern States Farmers' Exchange, Inc.	44.80	43.00
2334	DU PONT NU GREEN Fertilizer Compound. E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.	Norwich: Eastern States Farmers' Exchange, Inc.	43.56	44.00
2307	DU PONT URAMON Fertilizer Compound. E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.	North Haven: Woodruff Fertilizer Works, Inc.	42.76	42.00
2414	O & W Uramon Fertilizer Compound. Olds & Whipple, Inc., Hartford, Conn.	Glastonbury: E. J. Bantle	42.28	42.00
Castor Pomace				
2064	Apothecaries Hall Co., Waterbury, Conn.	East Windsor Hill: John Schweir & Son	4.75	4.50
2301	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.	New Haven: New Haven Rendering Co.	6.30	5.55
2438	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.	East Hartford: The American Agricultural Chemical Co.	6.22	5.55
917	O & W. Olds & Whipple, Inc., Hartford, Conn.	East Windsor Hill: General Cigar Co., Inc.	5.78	4.50
2250	O & W. Olds & Whipple, Inc., Hartford, Conn.	Wilson: North Meadows Farm	5.90	4.50

¹ Deficiencies are in bold face type.² State purchases.

TABLE 1. ANALYSES OF MATERIALS SUPPLYING CHIEFLY NITROGEN¹

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent nitrogen	
			Found	Guaranteed
2007	The Rogers & Hubbard Co., Portland, Conn.	Cromwell: Millane Tree Ex- pert Co.	5.90	4.50
1963	Baker's. Woodruff Fertilizer Works, Inc., North Haven, Conn.	North Haven: Joseph Beach	5.73	5.50
	Dried Blood			
2461	Sawco. Stumpp & Walter Co., New York, N. Y.	Stamford: Stumpp & Walter	14.00	12.00
	Cottonseed Meal			
860	Cow-Eta Brand 41%. Ash- craft-Wilkinson Co., Atlan- ta, Ga.	Hazardville: L. B. Haas & Co.	6.56	6.56
881	Cow-Eta Brand 41%. Ash- craft-Wilkinson Co., Atlan- ta, Ga.	Portland: Consolidated Cigar Co., Inc.	6.58	6.56
919	Cow-Eta Brand 41%. Ash- craft-Wilkinson Co., Atlan- ta, Ga.	East Windsor Hill: General Cigar Co., Inc.	6.64	6.56
924	Cow-Eta Brand 41%. Ash- craft-Wilkinson Co., Atlan- ta, Ga.	Scitico: Consolidated Cigar Co., Inc.	6.72	6.56
925	Cow-Eta Brand 41%. Ash- craft-Wilkinson Co., Atlan- ta, Ga.	Scitico: Consolidated Cigar Co., Inc.	6.63	6.56
2257	Cow-Eta Brand 41%. Ash- craft-Wilkinson Co., Atlan- ta, Ga.	East Hartford: Meyer & Men- derson, Inc.	6.96	6.56
2410	Cow-Eta Brand 41%. Ash- craft-Wilkinson Co., Atlan- ta, Ga.	Portland: The Rogers & Hubbard Co.	6.63	6.56
864	Pure Gold 41%. The Boswell Co., Atlanta, Ga.	West Suffield: Consolidated Cigar Co., Inc.	6.64	6.56
865	Pure Gold 41%. The Boswell Co., Atlanta, Ga.	West Suffield: Consolidated Cigar Co., Inc.	6.93	6.56
866	Pure Gold 41%. The Boswell Co., Atlanta, Ga.	West Suffield: Consolidated Cigar Co., Inc.	7.00	6.56
867	Dixie Brand 41%. Hum- phreys-Godwin Co., Mem- phis, Tenn.	West Suffield: Hatheway- Steane Corp.	6.65	6.56
869	Dixie Brand 41%. Hum- phreys-Godwin Co., Mem- phis, Tenn.	West Suffield: Hatheway- Steane Corp.	6.92	6.56
859	"Lovitt Brand" 41%. L. B. Lovitt & Co., Memphis, Tenn.	Hazardville: L. B. Haas & Co.	6.66	6.56

¹ Deficiencies are in bold face type.

TABLE 1. ANALYSES OF MATERIALS SUPPLYING CHIEFLY NITROGEN¹

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent nitrogen	
			Found	Guaranteed
916	"Lovit Brand" 41%. L. B. Lovitt & Co., Memphis, Tenn.	East Windsor Hill: General Cigar Co., Inc.	6.69	6.56
2235 ²	"Lovit Brand" 41%. L. B. Lovitt & Co., Memphis, Tenn.	Southbury: Southbury Training School	6.66	6.56
871	"WHITE MULE BRAND" 41%. Marianna Sales Co., Memphis, Tenn.	Simsbury: Cullinan Bros., Inc.	6.77	6.56
874	"WHITE MULE BRAND" 41%. Marianna Sales Co., Memphis, Tenn.	Simsbury: Cullman Bros., Inc.	6.59	6.56
875	"WHITE MULE BRAND" 41%. Marianna Sales Co., Memphis, Tenn.	Simsbury: Cullinan Bros., Inc.	7.03	6.56
876	"WHITE MULE BRAND" 41%. Marianna Sales Co., Memphis, Tenn.	Granby: Cullman Bros., Inc.	6.81	6.56
877	"WHITE MULE BRAND" 41%. Marianna Sales Co., Memphis, Tenn.	Granby: Cullman Bros., Inc.	7.00	6.56
2541	Golden Rod Brand 41%. Perkins Oil Co., Memphis, Tenn.	East Hartford: Olds & Whipple, Inc.	6.76	6.56
2462 ³	Sawco. Stumpp & Walter Co., New York, N. Y.	Stamford: Stumpp & Walter Co.	6.76	6.00
2040	Swift's 41%. Swift & Co., Boston, Mass.	Stafford Springs: Valley Grain Co.	6.36	6.56
Horn & Hoof Meal				
2545	Olds & Whipple, Inc., Hartford, Conn.	East Hartford: Olds & Whipple, Inc.	15.05	14.00
Linseed Oil Meal				
862	Spencer Kellogg's 34%. Spencer Kellogg & Sons, Inc., Buffalo, N. Y.	Hazardville: L. B. Haas & Co.	5.66	5.44
868	Spencer Kellogg's 34%. Spencer Kellogg & Sons, Inc., Buffalo, N. Y.	West Suffield: Hatheway-Steane Corp.	5.54	5.44
872	Spencer Kellogg's 34%. Spencer Kellogg & Sons, Inc., Buffalo, N. Y.	Simsbury: Cullman Bros., Inc.	5.60	5.44
878	Spencer Kellogg's 34%. Spencer Kellogg & Sons, Inc., Buffalo, N. Y.	Glastonbury: E. J. Bantle	5.68	5.44

¹ Deficiencies are in bold face type.² State purchase.³ Phosphoric acid guaranteed 2.0%, found 2.99%; potash guaranteed 1.0%, found 2.24%.

TABLE 1. ANALYSES OF MATERIALS SUPPLYING CHIEFLY NITROGEN¹

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent nitrogen	
			Found	Guaranteed
920	Spencer Kellogg's 34%. Spencer Kellogg & Sons, Inc., Buffalo, N. Y.	East Windsor Hill: General Cigar Co., Inc.	5.54	5.44
	Peanut Meal			
870	Sesco 45%. Sessions Oil Mills, Enterprise, Ala.	Simsbury: Cullman Bros., Inc.	7.75	7.20
	Soybean Oil Meal			
913	44%, Lou Soy Brand. Ash- craft-Wilkinson Co., Atlan- ta, Ga.	Portland: Consolidated Cigar Co., Inc.	7.81	7.04
921	OGRACO 44%. Owensboro Grain Co., Owensboro, Ky.	Scitico: Consolidated Cigar Co., Inc.	8.17	7.04

¹ Deficiencies are in bold face type.

TABLE 2. ANALYSES OF POTASH SALTS, ETC.¹

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent potash	
			Found	Guaranteed
Muriate of Potash				
2323	The American Agricultural Chemical Co., No. Weymouth, Mass.	Pawcatuck: The C. W. Campbell Co.	51.20	50.00
2286	Apothecaries Hall Co., Waterbury, Conn.	Watertown: Watertown Co-op. Assoc., Inc.	60.82	60.00
2552	Apothecaries Hall Co., Waterbury, Conn.	East Windsor: Apothecaries Hall Co.	60.64	60.00
2303	Consolidated Rendering Co., Boston, Mass.	New Haven: New Haven Rendering Co.	61.92	60.00
1841	Eastern States. Eastern States Farmers' Exchange, Inc., West Springfield, Mass. ...	Canaan: Albert Guilian ...	62.88	60.00
1933	Eastern States. Eastern States Farmers' Exchange, Inc., West Springfield, Mass. ...	North Haven: Eastern States Farmers' Exchange, Inc. ...	61.28	60.00
1838 ²	Olds & Whipple, Inc., Hartford, Conn.	Cheshire: Conn. Reformatory	60.04	60.00
2244	The Rogers & Hubbard Co., Portland, Conn.	New Milford: Soule Grain Co.	60.20	60.00
1935	50%. I. P. Thomas & Son Co., Camden, N. J.	North Haven: Joseph Beach	51.60	50.00
1967	60%. Woodruff Fertilizer Works, Inc., North Haven, Conn.	North Haven: Woodruff Fertilizer Works, Inc.	60.48	60.00
Sulphate of Potash				
2557	Apothecaries Hall Co., Waterbury, Conn.	East Windsor: Apothecaries Hall Co.	51.76	48.00
2260 ²	O & W. Olds & Whipple, Inc., Hartford, Conn.	Storrs: University of Connecticut	50.48	48.00
2415	O & W. Olds & Whipple, Inc., Hartford, Conn.	Glastonbury: E. J. Bantle ..	51.64	48.00
Cottonhull Ashes				
914	Kireal. Ted Alkire, Lubbock, Texas	East Windsor Hill: General Cigar Co., Inc.	31.54	33.00
923	Apothecaries Hall Co., Waterbury, Conn.	Scitico: Consolidated Cigar Co., Inc.	40.20	unit basis
915	Old Deerfield 35%. Old Deerfield Fertilizer Co., Inc., So. Deerfield, Mass.	East Windsor Hill: General Cigar Co., Inc.	35.26	35.00
922	Old Deerfield 35%. Old Deerfield Fertilizer Co., Inc., So. Deerfield, Mass.	Scitico: Consolidated Cigar Co., Inc.	40.48	35.00
2308	O & W. Olds & Whipple, Inc., Hartford, Conn.	North Haven: Woodruff Fertilizer Works, Inc.	40.60	35.00

¹ Deficiencies are in bold face type.² State purchases.

2459 1937 1968	Sawco. Stumpp & Walter Co., New York, N. Y. . 20% I. P. Thomas & Son Co., Camden, N. J. . . . 20% Woodruff Fertilizer Works, Inc., No. Haven, Conn.	Stamford: Stumpp & Walter Co. North Haven: Joseph Beach North Haven: Woodruff Fertilizer Works, Inc.	0.17 0.40 1.25	20.55 22.10 22.20	20.38 21.70 20.95	20.00 20.00 20.00
873 861	Precipitated Bone Phosphate Apothecaries Hall Co., Waterbury, Conn. Olds & Whipple, Inc., Hartford, Conn.	Simsbury: Cullman Bros., Inc. Hazardville: L. B. Haas & Co.	0.17 0.15	43.54 45.10	43.37 44.95	38.00 40.00
2276 ³	Phosphate Rock AA Quality Ground Florida Pebble. The Amer- ican Agricultural Chemical Co., No. Weymouth, Mass. Red Seal Brand Ruhm's. Ruhm Phosphate & Chemical Co., Chicago, Ill.	Waterbury: H. S. Coe & Co., Inc. New Haven: Jackson-Marvin Co.	27.32	30.50 30.65	3.18	3.00 30.00

¹ Deficiencies are in bold face type.² State purchases.³ Guaranteed: total phosphoric acid 30.0%; citrate-insoluble phosphoric acid 27.0%.

TABLE 4. ANALYSES OF GROUND FISH, BONE, ETC.¹

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent nitrogen		Per cent phosphoric acid		Mechanical analysis (in percentage)	
			Total found	Total guaranteed	Total found	Total guaranteed	Finer than 1/50 inch	Coarser than 1/50 inch
Dry Ground Fish								
918	Apothecaries Hall Co., Waterbury, Conn.	East Windsor Hill: General Cigar Co., Inc.	10.28	9.00	7.48	5.00
863	O & W Menhaden. Olds & Whipple, Inc., Hartford, Conn.	Hazardville: L. B. Haas & Co.	10.28	9.00	6.89	5.00
879	O & W Menhaden. Olds & Whipple, Inc., Hartford, Conn.	Glastonbury: E. J. Bantle	10.14	9.00	6.49	5.00
882	The Rogers & Hubbard Co., Portland, Conn.	Portland: Consolidated Cigar Co., Inc.	9.97	9.56	8.05	5.00
Ground Bone								
2021	Bone Meal. The American Agricultural Chemical Co., No. Weymouth, Mass.	Essex: Essex Grain Co.	3.16	2.00	25.55	23.00	61.5	38.5
1930 ²	Bone Meal. Apothecaries Hall Co., Waterbury, Conn.	Middletown: Conn. State Hospital	2.96	2.25	26.50	22.00	63.0	37.0
1996	Bone Meal. Apothecaries Hall Co., Waterbury, Conn.	Old Greenwich: Moraito Bros.	2.64	2.25	28.20	22.00	59.0	41.0
2000 ²	Bone Meal. Apothecaries Hall Co., Waterbury, Conn.	Middletown: Long Lane School	2.94	2.25	27.10	22.00	59.5	40.5
2236 ²	Bone Meal. Apothecaries Hall Co., Waterbury, Conn.	Southbury: Southbury Training School	2.41	2.25	28.45	22.00	62.0	38.0
2258	Bone Meal. Apothecaries Hall Co., Waterbury, Conn.	East Windsor: Apothecaries Hall Co.	4.16	3.70	22.35	20.00	69.5	30.5
2051	Armour's Bone Meal. Armour Fertilizer Works, New York, N. Y.	East Windsor Hill: The Farmers' Hardware Co.	2.71	2.30	25.05	23.00	53.5	46.5

1891	Corenco. Consolidated Rendering Co., Boston, Mass.	New Haven: R. G. Davis & Sons, Inc.	1.71	2.00	28.40	23.00	48.0	52.0
2397	Corenco Special. Consolidated Rendering Co., Boston, Mass.	Bloomfield: Bloomfield Farmers Exchange	1.72	3.70	27.85	20.00	43.0	57.0
1969	Raw Bone Meal. Faesy & Besthoff, Inc., New York, N. Y.	Greenwich: McArdle Seed Store	5.88	4.25	14.75	15.50	36.0	64.0
1908	G & O. Goulard & Olena, Inc., Skillman, N. J.	Bridgeport: Beardsley Park	2.44 ³	2.40	25.05	20.00	35.5	64.5
2068	Fine Ground Bone Meal. Libner Grain Co., Norwalk, Conn.	Norwalk: Libner Grain Co.	2.50	2.00	26.20	23.00	55.0	45.0
1894	Gro-Fast Bone Meal. The Rogers & Hubbard Co., Portland, Conn.	New Haven: Roland T. Warner Co.	2.58	2.00	26.00	23.00	54.0	46.0
1914	Gro-Fast Bone Meal. The Rogers & Hubbard Co., Portland, Conn.	Meriden: J. F. Raven Hardware Co.	2.91 ⁴	2.00	27.15	23.00	69.0	31.0
2452	Sawco Bone. Stumpp & Walter Co., New York, N. Y.	Stamford: Stumpp & Walter Co.	2.60	2.47	25.50	22.00	55.0	45.0
2274	Vico Steamed Bone Meal. The Van Iderstine Co., Long Island City, N. Y.	Manchester: Larsen Feed Service	3.10	2.47	26.15	23.00	57.0	43.0
Milorganite								
1879	Sewerage Commission of the City of Milwaukee, Milwaukee, Wis.	Cheshire: Cheshire Nursery of the North-Eastern Forestry Co.	5.95	6.00	3.76 ⁵
2319	Sewerage Commission of the City of Milwaukee, Milwaukee, Wis.	Pawcatuck: The C. W. Campbell Co.	6.00 ⁶	6.00	3.65 ⁷

¹ Deficiencies are in bold face type.² State purchases.³ Nitrogen in ammonia 0.44%.⁴ Nitrogen in ammonia 0.42%.⁵ Guaranteed "available" phosphoric acid 2.0%; found 2.89%.⁶ Found: Nitrogen in ammonia 0.04; nitrogen organic water-soluble 0.72%; nitrogen organic insoluble 5.24%.⁷ Guaranteed "available" phosphoric acid 2.0%; found 2.85%.

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
	Agricultural Supply Co., West Haven, Conn.	
2279	Yale Special Mixture 8-6-2	Waterbury
2080	Yale Special Mixture 8-6-4	Fairfield
	The American Agricultural Chemical Co., No. Weymouth, Mass.	
2320	AA Quality Fertilizer 4-12-4	Pawcatuck
2436	AA Quality Fertilizer 5-5-15	East Hartford
2020	AA Quality Fertilizer 5-8-7	Essex
2253	AA Quality Fertilizer 5-8-7	Hartford
2252	AA Quality Fertilizer 5-10-5	Hartford
2292	AA Quality Fertilizer 5-10-10	West Haven
2433	Agrico Country Club Fertilizer 6-10-4	East Hartford
2275	Agrico Country Club Fertilizer 8-6-2	Manchester
2432	Agrico for Broadleaf Evergreens 6-10-4	East Hartford
2317	Agrico for Corn 3-12-6	Mystic
1900	Agrico for Gardens 5-10-5	Bridgeport
1899	Agrico for Lawns, Trees and Shrubs 6-10-4	Bridgeport
2013	Agrico for New England 5-8-7	Cromwell
2014	Agrico for Potatoes 5-10-10	Cromwell
2321	Agrico for Potatoes 5-10-10-1.2	Pawcatuck
2294	Agrico for Seeding Down 3-12-12	West Haven
2435	Agrico for Tobacco 6-3-6	East Hartford
2290	Agrico for Top Dressing 7-7-7	New Haven
2437	Agrico for Truck 5-10-5	East Hartford
2291	Agrico for Turf 50% Organic Fertilizer 6-8-2	West Haven
2293	Agrico Phosphate and Potash 0-14-14	West Haven
	Apothecaries Hall Co., Waterbury, Conn.	
2285	Liberty Fertilizer 0-14-14	Watertown
2281	Liberty Fertilizer 3-12-12	Thomaston
2284	Liberty Fertilizer 4-12-4	Watertown
2554	Liberty Fertilizer 5-10-5	East Windsor
2239	Liberty Fertilizer 5-10-10	New Milford
2551	Liberty Fertilizer 5-10-10 with 1.2% Mg.	East Windsor
2063	Liberty Fertilizer 6-8-8	East Windsor Hill
1983	Liberty Green-Gro Fertilizer 6-7-4	Greenwich
1878	Liberty High Grade Market Gardeners 5-8-7	Mt. Carmel
2553	Liberty High Grade Market Gardeners with 1.2 Mg. 5-8-7	East Windsor
2398	Liberty High Grade Market Gardeners with Sulphate of Potash 5-8-7	Simsbury
2280	Liberty Special for Fruit and Grass 7-7-7	Oakville
2556	Liberty Tobacco Mixture 6-3-6	East Windsor
2269	Liberty Tobacco Mixture with Cotton Hull Ashes 6-3-6	Glastonbury
2559	Liberty Tobacco Starter 4-10-0	East Windsor
2555	Liberty Tobacco Starter 5-5-15	East Windsor

¹ Deficiencies are in bold face type.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH¹

Per cent nitrogen					Per cent phosphoric acid			Per cent potash		Magnesium
In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muriate	Total	
0.17	4.88	2.52	0.50	8.07	0.42	7.15	6.73	1.98	2.64
0.19	5.04	2.36	0.41	8.00	0.27	6.70	6.43	4.21	4.52
.....
0.62	3.00	0.10	0.19	3.91	1.60	12.55	10.95	3.38	4.08
0.87	2.74	0.14	0.94	4.69	0.22	5.91	5.69	0.86	14.72
0.38	3.84	0.32	0.16	4.70	0.82	9.20	8.38	5.21	6.98
0.80	3.88	0.04	0.14	4.86	0.65	8.52	7.87	5.99	6.86
0.29	4.08	0.52	0.19	5.08	0.55	10.65	10.10	3.34	5.36
0.58	4.00	0.24	0.09	4.91	0.72	11.25	10.53	9.96	9.96
0.45	4.60	0.23	0.56	5.84	0.77	10.87	10.10	3.27	4.06
0.25	5.36	0.48	1.60	7.69	0.42	6.87	6.45	2.16	2.16
0.41	4.48	0.48	0.46	5.83	0.95	10.75	9.80	3.44	4.10
0.43	2.00	0.34	0.17	2.94	1.32	12.47	11.15	4.97	6.02
0.51	3.96	0.12	0.13	4.72	0.90	11.45	10.55	4.29	4.66
0.00	4.62	0.40	0.96	5.98	1.00	11.05	10.05	3.71	4.00
0.00	3.80	0.65	0.15	4.60	0.62	9.02	8.40	6.22	6.98
0.38	4.00	0.26	0.14	4.78	0.62	10.39	9.77	8.40	9.98
0.75	3.88	0.00	0.08	4.71	0.70	10.75	10.05	6.88	9.22	0.94
0.00	2.80	0.07	0.07	2.94	0.55	12.85	12.30	12.14	12.14
0.21	0.86	2.00	2.50	5.57	0.30	4.25	3.95	0.36	6.18
0.43	5.48	0.24	0.45	6.60	0.60	8.35	7.75	3.77	6.90
0.57	4.00	0.24	0.12	4.93	0.65	10.77	10.12	4.29	5.28
0.43	2.50	0.58	2.19	5.70	0.97	9.32	8.35	1.98	2.48
.....	0.50	14.62	14.12	12.67	13.48
.....
.....	1.02	15.80	14.78	9.73	14.34
2.07	2.12	0.07	0.06	4.32	0.50	11.61	11.10	8.87	13.90
0.26	3.40	0.50	0.44	4.60	1.05	13.35	12.30	3.83	4.66
0.63	3.40	1.30	0.54	5.87	1.35	11.40	10.05	4.92	5.56
0.62	4.47	0.19	0.30	5.58	0.55	11.05	10.50	9.36	10.44
0.00	4.56	0.29	0.39	5.24	0.50	11.10	10.60	8.69	10.02	2.18
0.10	5.44	0.24	0.44	6.22	0.30	10.05	9.75	7.48	8.80
0.00	4.60	0.37	1.48	6.45	0.67	8.37	7.70	3.99	4.90
0.31	4.24	0.00	0.45	5.22	0.52	9.50	8.98	5.36	7.64
.....
0.00	3.24	0.89	0.69	4.82	0.45	10.29	9.84	2.68	4.30	1.77
.....
0.33	4.56	0.04	0.43	5.36	0.60	9.72	9.12	0.54	7.98
0.00	6.16	0.53	0.41	7.10	0.52	8.52	8.00	6.30	7.58
0.76	0.08	2.08	3.15	6.07	0.30	5.20	4.90	0.66	7.32
1.22	0.16	2.02	3.18	6.58	0.37	4.66	4.29	0.94	7.90
0.53	2.30	0.48	0.96	4.27	0.70	12.22	11.52
1.80	0.12	1.70	2.10	5.72	0.17	5.66	5.49	0.80	15.64

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
	Armour Fertilizer Works, New York, N. Y.	
2058	Armour's Big Crop Fertilizer 5-8-7	East Windsor Hill
2271	Armour's Big Crop Fertilizer 5-8-7	Bolton Notch
2263	Armour's Big Crop Fertilizer 5-10-10	Bolton Notch
2060	Armour's Big Crop Fertilizer 5-10-10 with 1.2 Mg. ..	East Windsor Hill
2061	Armour's Big Crop Fertilizer 5-10-10 with 1.2 Mg. ..	East Windsor Hill
2264	Armour's Big Crop Fertilizer 7-7-7	Bolton Notch
2062	Armour's Big Crop Fertilizer Tobacco Special 6-3-6 ..	East Windsor Hill
2496	Armour's Big Crop Fertilizer Tobacco Special 6-3-6 ..	West Suffield
2057	Armour's Special Ornamental Fertilizer 10-6-4	East Windsor Hill
1971	Armour's Vertagreen Plant Food 5-10-5	Greenwich
2265	Armour's Vertagreen Plant Food 5-10-5	Bolton Notch
	Associated Seed Growers, Inc., Milford, Conn.	
2502	Asgrow Lawn Food 10-6-4	Milford
2504	Clark's Tip Top 5-8-7 Fertilizer	Milford
2503	Japedite 8-6-4	Milford
	The F. A. Bartlett Tree Expert Co., Stamford, Conn.	
2450	Bartlett Green Tree Food 6-8-6	Stamford
	Consolidated Rendering Co., Boston, Mass.	
2560	Corenco 0-14-14 Top Dresser	New Haven
1890	Corenco 4-12-4	New Haven
2229 ²	Corenco 4-12-4 Complete Manure	Southbury
2300	Corenco 4-12-16 Ladino Special	New Haven
1882	Corenco 5-8-7 Potato & General Crop	New Haven
2277	Corenco 5-10-5 Home Garden	Waterbury
2067	Corenco 5-10-5 Onion Special Super Truck	Norwalk
2287	Corenco 5-10-10 Peerless Potato	Thomaston
2297	Corenco 5-10-10-1.2	New Haven
2497	Corenco 6-3-6 Special Tobacco Grower	West Suffield
2298	Corenco 6-8-8	New Haven
2077	Corenco 7-7-7 Complete Fruit and Top Dressing	Saugatuck
2228 ²	Corenco 7-7-7 Complete Fruit and Top Dressing	Southbury
1991	Corenco 8-6-4 Landscape	Cos Cob
2278	Corenco 8-6-4 Landscape	Waterbury
2084 ²	Corenco 8-16-16	Southbury
2299	Corenco 8-16-16	New Haven
2047	Corenco Spurz-on 3.5-3.5-1.5	Thompsonville
	The Davey Tree Expert Co., Kent, Ohio	
2449	Davey Tree Food 12-4-4	Old Greenwich

¹ Deficiencies are in bold face type.² State purchases.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH¹

In nitrates	Per cent nitrogen				Per cent phosphoric acid			Per cent potash		Magnesium
	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muriate	Total	
0.25	4.70	0.14	0.27	5.36	0.50	8.90	8.40	7.44	7.44
0.25	4.72	0.22	0.20	5.39	0.42	9.12	8.70	1.21	7.56
0.51	4.50	0.00	0.13	5.14	0.60	11.17	10.57	9.74	10.28
0.40	4.08	0.30	0.28	5.06	0.52	11.57	11.05	9.32	9.96	1.36
0.00	4.36	0.35	0.29	5.00	1.15	11.60	10.45	8.12	9.49	1.59
0.23	6.14	0.46	0.25	7.08	0.80	8.15	7.35	5.95	7.06
0.66	0.92	2.40	1.98	5.96	0.27	3.83	3.56	0.54	6.04
0.81	0.86	2.06	1.87	5.60	0.37	3.91	3.54	0.24	6.48
0.21	8.70	0.38	0.24	9.65	1.00	7.50	6.50	3.55	4.66
0.09	4.68	0.08	0.21	5.06	0.42	11.25	10.83	3.12	5.46
0.00	4.76	0.09	0.41	5.26	1.15	11.27	10.12	2.67	5.14
0.00	5.64	3.12	1.45	10.21	0.30	6.60	6.30	4.56	4.56
0.35	3.44	0.40	0.59	4.78	0.60	8.60	8.00	6.17	7.00
0.30	5.88	0.60	1.57	8.35	0.60	6.60	6.00	3.59	4.24
0.00	5.44	0.49	0.27	6.20	0.47	8.92	8.45	6.13	6.84
.....	0.27	14.27	14.00	13.66	15.38
1.05	3.00	0.00	0.13	4.18	1.07	13.12	12.05	3.93	4.12
1.05	2.00	1.12	0.17	4.34	0.65	12.37	11.72	4.12	4.36
0.00	3.00	0.52	0.17	3.69	0.42	12.87	12.45	14.02	16.66
1.04	3.44	0.22	0.18	4.88	0.92	8.47	7.55	7.10	7.84
0.84	3.40	0.32	0.27	4.83	0.72	11.55	10.83	4.19	5.42
0.66	4.06	0.38	0.14	5.24	0.55	10.90	10.35	4.31	5.52
0.00	2.76	2.04	0.29	5.09	0.95	10.95	10.00	8.24	10.84
0.00	3.30	1.76	0.35	5.41	1.22	10.65	9.43	8.37	11.52	0.73
0.00	0.18	2.31	3.36	5.85	0.27	4.61	4.34	0.51	6.06
0.15	4.60	1.52	0.11	6.38	0.55	8.85	8.30	7.64	8.42
0.33	4.94	1.16	0.16	6.59	0.27	8.10	7.83	6.29	7.20
0.57	5.88	0.30	0.19	6.94	0.22	7.30	7.08	6.38	7.10
0.23	6.92	0.06	0.49	7.70	0.35	7.60	7.25	4.25	4.58
0.38	4.64	2.12	0.50	7.64	0.37	7.35	6.98	2.80	4.56
0.56	6.72	0.23	0.23	7.74	0.55	15.92	15.37	12.88	16.84
0.18	4.96	2.64	0.22	8.00	0.60	16.12	15.52	13.70	16.32
0.00	0.20	1.87	3.12	5.19	4.20	0.45	2.45
0.85	9.58	0.60	0.67	11.70	0.40	4.95	4.55	3.60	4.08

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
	R. G. Davis & Sons, Inc., New Haven, Conn.	
4696	"Organo" 10-5-5	New Haven
	The Davison Chemical Corp., Baltimore, Md.	
2330	Davco Granulated Fertilizer 5-8-7	Norwich
2237	Davco Granulated Fertilizer 5-10-5	New Milford
2238	Davco Granulated Fertilizer 5-10-10	New Milford
2331	Davco Granulated Fertilizer 7-7-7	Norwich
	The Doggett-Pfeil Co., Springfield, N. J.	
1981	Clay's Fertilizer 4-8-0	Greenwich
	The Doughten Seed Co., Jersey City, N. J.	
2335 ²	Faith Soil Food with Insect Control 5-9-4	Hartford
	Eastern States Farmers' Exchange, Inc., West Springfield, Mass.	
2520 ³	Eastern States 0-19-19	Bethel
2268	Eastern States 0-20-20	Norwich
1932	Eastern States 5-10-10-0.6	North Haven
2519	Eastern States 5-15-10-0.6	Bethel
1934	Eastern States 5-15-15-0.6	North Haven
2256	Eastern States 6-4-6-1.2 Tobacco	South Windsor
2524	Eastern States 6-4-6-1.2 Tobacco	East Hartford
2270	Eastern States 8-4-8-1.2 Tobacco	East Hartford
2525	Eastern States 8-4-8-1.2 Tobacco	East Hartford
2332	Eastern States 8-12-12-1.2 S. M.	Norwich
2333	Eastern States 8-16-16-0.6	Norwich
2523	Eastern States 10-10-10-0.6	East Hartford
2522	Eastern States Plant Starter 10-52-17	East Hartford
	Faesly & Besthoff, Inc., New York, N. Y.	
1984	F & B High Organic Pelletized All-Purpose 6-12-6	Greenwich
	Fox Point Chemical Co., E. Providence, R. I.	
2322	Old Fox Brand 0-14-14	Pawcatuck
2028	Old Fox Brand 4-12-8	Groton
2324	Old Fox Brand 5-8-7	Pawcatuck
2027	Old Fox Brand 5-10-10-0.6	Groton
2024	Old Fox Brand 7-7-7	Groton

¹ Deficiencies are in bold face type.² Boron found, 0.02, guaranteed, 0.02.³ Boron found, 0.61, guaranteed, 0.30.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH¹

Per cent nitrogen					Per cent phosphoric acid			Per cent potash		Magnesium
In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muriate	Total	
0.00	6.56	2.56	0.82	9.94	0.17	6.14	5.97	4.44	5.70
0.20	4.64	0.10	0.08	5.02	0.32	8.17	7.85	7.22	7.22
0.56	4.64	0.04	0.06	5.30	0.50	10.75	10.25	4.44	5.10
0.13	4.74	0.14	0.07	5.08	0.40	10.75	10.35	10.06	10.06
0.32	4.40	1.96	0.02	6.70	0.30	7.30	7.00	6.46	7.60
0.00	2.78	0.17	1.36	4.31	2.40	10.77	8.37
0.00	1.14	1.15	3.09	5.38	0.45	9.70	9.25	2.79	4.46
....	0.32	19.35	19.03	15.93	19.32
....	0.80	19.55	18.75	17.40	20.58
0.91	3.64	0.36	0.09	5.00	0.65	11.55	10.90	10.33	11.04	1.15
1.32	3.84	0.16	0.14	5.46	1.27	15.95	14.68	9.83	10.72	1.40
1.03	3.56	0.16	0.15	4.90	1.02	17.35	16.33	8.69	14.52	1.13
0.00	0.72	1.96	3.32	6.00	0.25	4.34	4.09	0.85	6.28	3.37
0.38	0.64	1.52	2.98	5.52	0.35	6.09	5.74	1.70	6.72	3.13
0.24	0.88	3.86	3.50	8.48	0.32	5.09	4.77	1.21	8.92	1.45
0.27	0.56	3.60	3.46	7.89	0.25	4.70	4.45	0.60	7.82	2.24
0.27	6.22	1.34	0.14	7.97	0.60	12.62	12.02	9.08	13.28	1.81
1.47	5.98	0.38	0.13	7.96	0.57	17.07	16.50	11.47	15.62	0.68
1.19	7.34	1.34	0.15	10.02	0.40	10.95	10.55	10.06	10.10	0.93
1.13	8.58	0.30	0.00	10.01	0.00	52.40	52.40	0.23	18.44
0.76	3.70	0.30	1.46	6.22	1.15	13.45	12.30	5.90	5.90
....	0.37	14.30	13.93	14.48	14.48
0.53	3.26	0.24	0.13	4.16	1.20	12.90	11.70	7.04	8.04
0.46	4.44	0.24	0.10	5.24	0.52	8.55	8.03	7.10	7.58
0.40	4.26	0.22	0.12	5.00	0.62	11.32	10.70	8.64	10.32	1.66
0.22	6.12	0.42	0.08	6.84	0.82	8.25	7.43	5.99	7.02

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
	Goulard & Olena, Inc., Skillman, N. J.	
2336	G & O Dahlia-Lily-Gladiola 5-6-15	Hartford
	International Minerals & Chemical Corp., Woburn, Mass.	
2247	International 5-8-7-0.6	Wilson
	Old Deerfield Fertilizer Co., Inc., So. Deerfield, Mass.	
2416	Old Deerfield Lawnshrub Fertilizer 6-5-5	Glastonbury
2501	Old Deerfield 5-5-15 Tobacco Starter	West Suffield
880	Old Deerfield 5-8-7	Glastonbury
2418	Old Deerfield 5-10-5	Glastonbury
2413	Old Deerfield 5-10-10	Glastonbury
2500	Old Deerfield 6-3-6 Complete Tobacco	West Suffield
2417	Old Deerfield 7-7-7 Fertilizer	Glastonbury
	Olds & Whipple, Inc., Hartford, Conn.	
2248	O & W 0-14-14 Fertilizer	Wilson
2538	O & W 4-8-4 Complete Lawn Grass Fertilizer	East Hartford
2535	O & W 4-12-4 Market Garden Fertilizer	East Hartford
2542	O & W 5-3-5 Complete Tobacco Fertilizer Potash derived from Cotton Hull Ash	East Hartford
2540	O & W 5-5-15 High Grade Tobacco Starter and Potash	East Hartford
3337	O & W 5-8-7 Potato and General Purpose Fertilizer ..	Manchester
1877 ²	O & W 5-10-10 Potato Fertilizer	Mt. Carmel
2015 ²	O & W 5-10-10 Potato Fertilizer	Rocky Hill
2272	O & W 5-10-10 Potato Fertilizer	Manchester
2471	O & W 5-10-10 Potato Fertilizer	West Suffield
2536	O & W 5-10-10-1.2 Mg. Potato Fertilizer	East Hartford
2546	O & W 6-3-6 Blue Label Tobacco Fertilizer	East Hartford
2539	O & W 6-3-6 Blue Label Tobacco Fertilizer Potash derived from Cotton Hull Ash	East Hartford
2543 ³	O & W 6-3-6 Blue Label Tobacco Fertilizer Potash derived from Cotton Hull Ash with 0.13 Cu.	East Hartford
2537	O & W 6-3-6 Pomace Base Fertilizer Potash derived from Cotton Hull Ash	East Hartford
1834 ²	O & W 7-7-7 Top Dressing and Grass Fertilizer	Cheshire
2258 ²	O & W 7-7-7 Top Dressing and Grass Fertilizer	Storrs
2273	O & W 7-7-7 Top Dressing and Grass Fertilizer	Manchester
	The Frank S. Platt Co., New Haven, Conn.	
1881	Platt's Special 10-5-5 Lawn Fertilizer	New Haven
2561	Platt's Special 10-5-5 Lawn Fertilizer	New Haven

¹ Deficiencies are in bold face type.² State purchases.³ Copper guaranteed, 0.13; found, 0.13.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH¹

Per cent nitrogen					Per cent phosphoric acid			Per cent potash		Magnesium
In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muriate	Total	
0.00	3.28	0.00	1.78	5.78	0.45	6.65	6.20	10.63	15.64
0.65	3.76	0.44	0.27	5.12	1.12	9.27	8.15	6.45	7.36	0.63
0.40	2.12	2.20	1.50	6.22	0.52	6.20	5.68	3.72	5.60
0.82	0.36	2.68	1.49	5.35	0.47	6.45	5.98	1.62	15.04
1.16	3.70	0.00	0.52	5.38	0.70	8.84	8.14	6.25	7.24
0.38	3.48	1.20	0.30	5.36	0.70	10.80	10.10	3.12	5.48
0.67	4.08	0.72	0.19	5.66	0.80	10.55	9.75	8.01	10.20
0.77	0.14	2.44	3.25	6.60	0.22	4.17	3.95	0.64	6.64
1.45	4.88	0.80	0.07	7.20	0.52	7.95	7.43	6.02	7.08
....	0.50	14.52	14.02	10.65	15.84
0.56	2.16	0.49	1.02	4.23	0.32	10.07	9.75	3.10	4.78
0.00	3.64	0.37	0.66	4.67	0.70	12.80	12.10	3.87	5.32
0.37	0.34	1.62	2.97	5.30	0.25	4.22	3.97	0.45	5.56
1.02	0.06	2.30	1.81	5.19	0.35	6.66	6.31	1.12	15.92
0.35	3.92	0.38	0.71	5.36	0.35	9.05	8.70	4.85	7.28
0.84	4.00	0.18	0.59	5.61	0.25	11.47	11.22	9.50	10.64
0.43	4.04	0.56	0.50	5.53	0.35	11.60	11.25	10.03	10.80
0.89	4.02	0.00	0.67	5.58	0.80	11.60	10.80	9.20	10.56
0.00	3.34	0.93	0.82	5.09	0.15	11.60	11.45	0.00	10.02
0.61	4.04	0.00	0.71	5.36	0.42	11.02	10.60	9.12	10.06	1.23
0.94	0.04	1.48	3.54	6.00	0.17	3.60	3.43	0.51	7.36
0.75	0.56	1.76	2.95	6.02	0.25	5.24	4.99	1.04	6.88
0.94	0.10	2.18	3.17	6.39	0.25	4.10	3.85	0.56	6.86
1.28	0.20	2.24	2.67	6.39	0.17	4.00	3.83	0.66	6.54
0.97	4.84	0.88	0.81	7.50	0.42	8.27	7.85	5.82	8.98
1.40	4.24	0.98	0.53	7.15	0.77	8.27	7.50	6.74	7.92
0.79	4.90	0.96	0.79	7.44	0.65	8.30	7.65	6.51	7.58
0.37	5.40	2.60	1.06	9.43	0.12	6.40	6.28	4.66	5.48
0.00	5.20	2.95	1.22	9.37	0.12	5.84	5.72	4.45	5.72

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
The Rogers & Hubbard Co., Portland, Conn.		
1893	Gro-Fast Plant Food 5-10-5	New Haven
2246	Gro-Fast Plant Food 5-10-5	New Milford
2242	Hubbard Alfalfa Fertilizer 0-14-14	New Milford
2401 ²	Hubbard Alfalfa Fertilizer 0-14-14-0.55	Portland
1999 ³	Hubbard Corn Fertilizer 4-12-4	Middletown
2243	Hubbard Corn Fertilizer 4-12-4	New Milford
2400	Hubbard Double Strength Fertilizer 8-16-16	Portland
1911 ³	Hubbard Garden Fertilizer 5-10-5	Meriden
2002 ³	Hubbard Garden Fertilizer 5-10-5	Middletown
2030	Hubbard Garden Fertilizer 5-10-5	New London
1909 ³	Hubbard General Crop Fertilizer 5-10-10	Meriden
2018	Hubbard General Crop Fertilizer 5-10-10	Centerbrook
3410 ³	Hubbard General Crop Fertilizer 5-10-10	Middletown
2411	Hubbard General Crop Fertilizer 5-10-10-1.2	Portland
2403	Hubbard Golf Course Fertilizer 8-6-2	Portland
2404	Hubbard High Potash Fertilizer 5-10-10	Portland
1915	Hubbard Potato Fertilizer 5-8-7	Meriden
2408	Hubbard Potato Fertilizer 5-8-7-1.2	Portland
2407	Hubbard Seeding Fertilizer 3-12-12	Portland
2245	Hubbard Tobacco Grower 6-3-6	New Milford
2412	Hubbard Tobacco Grower 6-3-6	Portland
2409	Hubbard Tobacco Starter 5-5-15	Portland
2035 ³	Hubbard Top Dressing Fertilizer 7-7-7	North Haven
1913	Hubbard Vegetable Fertilizer 5-8-7	Meriden
2001 ³	Hubbard Vegetable Fertilizer 5-8-7	Middletown
2036 ³	Hubbard Vegetable Fertilizer 5-8-7	North Haven
2405	Hubbard Vegetable Fertilizer 5-8-7-1.2	Portland
1892	Hubbard Weed-Kil Lawn Food 6-10-4	New Haven
Rose Manufacturing Co., Beacon, N. Y.		
1986	Triogen Rose Food 5-10-5	Greenwich
O. M. Scott & Sons Co., Marysville, Ohio		
2066	Scott's Turf Builder 9-7-4	Norwalk
1918	Scott's Weed & Feed 7-11-5	Middletown
M. L. Shoemaker, Inc., Div. Wilson & Co., Philadelphia, Pa.		
2267	M. L. Shoemaker's "Swift-Sure" Tobacco Starter 4-10-0	Portland
2470	M. L. Shoemaker's "Swift-Sure" Tobacco Starter 4-10-0	Suffield
The Smith Agricultural Chemical Co., Columbus, Ohio		
2079	Wedo with 2,4-D 6-10-4	Fairfield

¹ Deficiencies are in bold face type.² Boron found, 0.57%.³ State purchases.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH¹

Per cent nitrogen					Per cent phosphoric acid			Per cent potash		Magnesium
In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As murate	Total	
0.00	3.14	1.68	1.00	5.82	0.22	11.37	11.15	4.15	5.22
0.00	3.16	0.00	1.09	5.40	0.20	10.70	10.50	4.81	6.22
.....	0.35	15.20	14.85	13.33	14.64
.....	0.42	14.55	14.13	15.23	16.00
0.80	3.06	0.24	0.45	4.55	1.05	13.35	12.30	4.50	4.50
0.56	3.72	0.46	0.52	5.26	0.75	13.25	12.50	6.49	8.07
0.98	4.72	1.88	0.32	7.90	0.42	16.47	16.05	13.76	15.22
0.78	3.84	0.16	0.42	5.20	0.82	11.90	11.08	4.05	5.54
0.43	3.64	0.52	0.42	5.01	1.15	12.17	11.02	4.98	6.10
0.00	3.82	1.08	0.35	5.25	1.17	11.65	10.48	4.69	6.08
0.70	4.00	0.04	0.40	5.14	0.50	11.75	11.25	7.24	9.46
0.64	4.34	0.08	0.41	5.47	0.67	11.02	10.35	9.41	10.30
0.27	4.10	0.42	0.37	5.16	0.62	11.25	10.63	6.78	9.88
1.11	3.64	0.24	0.42	5.41	0.77	11.20	10.43	8.48	10.12	1.85
0.00	4.08	2.12	1.60	7.80	0.40	7.20	6.80	2.54	3.76
0.00	2.02	1.99	1.07	5.08	0.62	11.32	10.70	9.40	10.28
0.49	2.92	0.72	1.25	5.38	0.50	9.60	9.10	5.29	7.14
0.00	2.52	1.41	1.11	5.04	0.35	9.62	9.27	5.85	7.06	1.42
0.64	2.32	0.12	0.38	3.46	0.85	12.75	11.90	12.05	12.58
0.85	0.20	0.00	3.13	6.00	0.25	4.07	3.82	0.58	8.32
0.00	0.12	1.58	4.30	6.00	0.37	4.00	3.63	0.54	6.86
2.65	0.24	1.06	1.93	5.88	0.45	6.26	5.81	1.12	14.52
0.39	6.00	0.40	0.33	7.12	0.35	8.35	8.00	6.49	7.26
0.53	4.14	0.22	0.38	5.27	0.60	9.55	8.95	6.09	7.48
0.87	4.40	0.14	0.39	5.80	0.47	9.37	8.90	6.67	7.04
0.54	4.44	0.07	0.43	5.48	0.50	9.35	8.85	5.89	7.34
0.93	3.76	0.00	0.42	5.31	0.42	8.67	8.25	7.48	8.12	2.27
0.38	3.70	1.36	0.96	6.40	0.80	12.57	11.77	2.30	2.58
.....
0.63	3.24	0.60	0.41	4.88	1.52	12.32	10.80	1.42	5.42
.....
0.14	6.46	0.72	2.54	9.86	0.37	8.22	7.85	3.88	4.80
0.00	3.92	0.98	3.33	8.23	0.90	13.67	12.77	4.21	5.40
.....
0.58	2.72	0.40	0.62	4.32	0.82	11.95	11.13
0.92	2.78	0.00	0.67	4.37	0.82	11.55	10.73
.....
0.36	4.60	0.12	1.07	6.15	0.52	11.77	11.25	4.24	4.24

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
	Stumpp & Walter Co., New York, N. Y.	
2455	Sawco Acidulous Fertilizer 4-12-4	Stamford
2460	Sawco Bulb Fertilizer 5-10-5	Stamford
2456	Sawco Economy Fertilizer 5-10-5	Stamford
2451	Sawco Emerald Grass Fertilizer 6-10-4	Stamford
2453	Sawco General Garden Fertilizer 4-12-4	Stamford
2458	Sawco Rose Food 4-12-4	Stamford
2457	Sawco Treewiz 8-6-2	Stamford
	Summers Fertilizer Co., Inc., Baltimore, Md.	
1840 ²	"Summers" Best-On-Earth 0-20-20 Fertilizer	Cheshire
1875 ²	"Summers" Best-On-Earth 0-20-20 Fertilizer	Mt. Carmel
2016 ²	"Summers" Best-On-Earth 0-20-20 Fertilizer	Rocky Hill
2045 ²	"Summers" Best-On-Earth 0-20-20 Fertilizer	Somers
2044 ²	"Summers" Best-On-Earth 5-8-7 Fertilizer Extra Organic	Somers
2230 ²	"Summers" Best-On-Earth 5-8-7 Fertilizer Extra Organic	Southbury
2231 ²	"Summers" Best-On-Earth 10-5-5 Fertilizer	Southbury
	Swift & Co., Boston, Mass.	
2022 ²	Brimm 5-10-10	Niantic
2328	Brimm 5-10-10	Pawcatuck
1836 ²	Brimm 5-10-10	Cheshire
1835 ²	Red Steer 5-8-7	New Haven
2550 ²	Red Steer 5-8-7	New Haven
2259 ²	Red Steer 5-10-5	Storrs
2327	Vigoro 4-12-4	Pawcatuck
1912	Vigoro 5-10-5	Meriden
2029	Vigoro 5-10-5	New London
2326	Vigoro Commercial Grower 7-7-7	Pawcatuck
	Tennessee Corp., Lockland, Ohio	
1985	Loma 5-10-5	Greenwich
1970 ³	Loma 8-8-8 Mineralized	Greenwich
	I. P. Thomas & Son Co., Camden, N. J.	
1871	I. P. Thomas 5-8-7	Hamden
1842	I. P. Thomas 5-10-10	Hamden
1936	I. P. Thomas 7-7-7-1.2	North Haven
1960	I. P. Thomas 8-16-16	North Haven

¹ Deficiencies are in bold face type.² State purchases.³ Boron guaranteed 0.05, found 0.05; copper guaranteed 0.15, found 0.21; iron guaranteed 0.20, found 0.27; manganese guaranteed 0.50, found 0.41; zinc guaranteed 0.20, found 0.19.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH¹

Per cent nitrogen					Per cent phosphoric acid			Per cent potash		Magnesium
In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muriate	Total	
0.91	2.00	0.48	0.41	3.80	0.47	12.00	11.53	3.12	6.86
0.48	3.44	0.20	0.41	4.53	0.35	12.12	11.77	3.79	5.84
1.32	2.14	0.32	0.58	4.36	0.62	11.80	11.18	3.56	6.18
1.07	2.42	0.30	1.19	4.98	0.57	11.12	10.55	4.57	5.16
1.38	1.86	0.08	0.50	3.82	1.02	13.20	12.18	4.68	5.54
1.45	1.76	0.30	0.45	3.96	0.47	12.05	11.58	2.59	5.92
0.32	5.24	1.90	0.32	7.78	0.35	6.50	6.15	1.62	3.06
.....	0.30	20.75	20.45	20.50	20.50
.....	0.22	20.95	20.73	20.02	20.02
.....	0.22	20.65	20.43	20.52	20.52
.....	0.25	20.35	20.10	20.02	20.02
0.52	3.92	0.08	0.65	5.17	1.67	9.90	8.23	5.66	7.54
0.58	4.30	0.08	0.30	5.26	0.65	9.95	9.30	8.56	8.60
1.29	8.04	0.28	0.19	9.80	0.35	6.42	6.07	5.14	5.14
0.29	4.40	0.15	0.13	4.97	0.40	10.70	10.30	9.82	9.82
0.55	4.50	0.10	0.12	5.27	0.57	10.42	9.85	7.34	10.02
0.29	4.30	0.11	0.16	4.86	0.45	10.52	10.07	8.88	9.98
0.22	3.88	0.23	0.11	4.44	0.37	8.22	7.85	9.56	9.56
0.34	3.84	0.00	0.15	4.33	0.37	8.30	7.93	8.84	8.84
0.54	4.44	0.00	0.13	5.11	0.52	10.45	9.93	7.16	7.16
0.00	3.56	0.31	0.13	4.00	0.62	12.90	12.28	0.47	4.28
0.42	4.32	0.16	0.17	5.07	0.80	11.10	10.30	1.79	4.98
0.42	4.42	0.22	0.15	5.21	0.77	10.52	9.75	4.51	5.08
0.47	6.12	0.02	0.25	6.86	0.65	8.20	7.55	5.87	7.22
0.00	4.62	0.46	0.22	5.20	0.50	11.17	10.67	5.28	5.28
0.69	6.80	0.24	0.35	8.08	0.55	9.05	8.50	7.59	8.56
0.84	3.84	0.04	0.05	4.77	0.60	9.40	8.80	6.38	7.00
0.74	3.80	0.28	0.10	4.92	0.90	11.40	10.50	10.13	11.30
0.54	5.80	0.12	0.21	6.67	0.62	8.35	7.73	4.86	7.22	1.47
0.78	6.26	0.12	0.11	7.27	0.60	17.20	16.60	13.57	14.36

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
2075	Garfield Williamson, Inc., Jersey City, N. J. Plantspur 4-4-2	Norwalk
2506	F. H. Woodruff & Sons, Inc., Milford, Conn. Gro-Sod Lawn Food 10-6-4	Milford
2316	Woodruff Fertilizer Works, Inc., North Haven, Conn. Woodruff's 0-14-14 Fertilizer	North Haven
1839 ²	Woodruff's 5-8-7 Fertilizer	Cheshire
1966	Woodruff's 5-8-7 Fertilizer	North Haven
2305	Woodruff's 5-8-10 Fertilizer	North Haven
1872	Woodruff's 5-10-10 Fertilizer	Hamden
2304	Woodruff's 5-10-10 Fertilizer	North Haven
2505	Woodruff's 5-10-10 Fertilizer	Milford
1965	Woodruff's 7-7-7 Fertilizer	North Haven
1898	Woodruff's 8-16-16 Fertilizer	Woodmont
1964	Woodruff's 10-6-4 Lawn & Tree Food	North Haven
2315	Woodruff's Tobacco Fertilizer 6-3-6	North Haven

¹ Deficiencies are in bold face type.² State purchase.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH¹

Per cent nitrogen					Per cent phosphoric acid			Per cent potash		Magnesium
In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muriate	Total	
0.00	2.70	1.06	1.09	4.75	0.62	4.96	4.34	1.52	2.74
0.62	4.44	2.86	1.60	9.52	0.40	6.55	6.15	3.59	4.66
.....	1.02	15.22	14.20	11.31	13.32
0.80	2.88	0.28	1.07	5.03	0.45	9.10	8.65	5.98	7.76
0.54	3.32	0.52	0.65	5.03	0.52	8.85	8.33	6.50	7.10
0.70	3.56	0.50	0.59	5.35	0.45	8.95	8.50	5.90	11.46
0.57	2.90	0.88	0.71	5.06	0.68	10.48	9.80	10.09	12.88
0.54	3.10	0.70	0.68	5.02	0.75	10.55	9.80	8.69	11.96
0.75	3.16	0.48	0.64	5.03	0.47	10.57	10.10	9.79	10.68
0.52	5.44	0.34	0.70	7.00	0.35	7.95	7.60	7.02	7.30
1.53	5.66	0.34	0.59	8.12	0.25	16.05	15.80	11.63	16.10
0.73	5.54	2.10	1.45	9.82	0.40	6.75	6.35	4.05	4.56
1.45	0.10	2.14	2.46	6.15	0.15	3.44	3.29	0.48	6.74

TABLE 6. ANALYSES OF

Station No.	Manufacturer and brand	Place of sampling
2019	Pulverized Sheep Manure. The American Agricultural Chemical Co., No. Weymouth, Mass.	Essex: Essex Grain Co.
1992	Sheep Manure. Apothecaries Hall Co., Waterbury, Conn.	Old Greenwich: Moraio Bros.
2329	Armour's Pulverized Sheep Manure. Armour Fertilizer Works, New York, N.Y.	Pawcatuck: The C. W. Campbell Co.
2288	DRICONURE. Atkins & Durbrow, Inc., New York, N.Y.	Thomaston: Thomaston Supply Co.
2046	Corenco Sheep Manure. Consolidated Rendering Co., Boston, Mass.	Thompsonville: Brainard Nursery & Seed Co.
1997	Davey Shredded Manure. The Davey Tree Expert Co., Kent, Ohio	Old Greenwich: The Davey Tree Expert Co.
2469	Norwood Brand Sheep Manure. Norwood Brand Fertilizer Co., No. Reading, Mass. ...	Windsor Locks: The F. S. Bidwell Co.
1982	Wizard Brand Pulverized Sheep Manure. The Pulverized Manure Co., Chicago, Ill.	Greenwich: McArdle Seed Store
2048	Wizard Brand Cow Manure. The Pulverized Manure Co., Chicago, Ill.	Thompsonville: Brainard Nursery & Seed Co.
1919	Gro-Fast Cow Manure. The Rogers & Hubbard Co., Portland, Conn.	Middletown: Bacon Bros., Inc.
1916	Gro-Fast Sheep Manure. The Rogers & Hubbard Co., Portland, Conn.	Meriden: Reliable Grain & Feed Co.
2037	Gro-Fast Sheep Manure. The Rogers & Hubbard Co., Portland, Conn.	Stafford Springs: Valley Grain Co.
2078	Farmanure. Wendell S. Still, Selden, N. Y. ...	Saugatuck: L. H. Gault & Son, Inc.
2454	Sawconure. Stumpp & Walter Co., New York, N. Y.	Stamford: Stumpp & Walter Co.
1990	Sheep Manure. Swift & Co., Boston, Mass. ...	Cos Cob: Belmont Feed Co.
1885	Bovung. Walker-Gordon Laboratory, Plainsboro, N. J.	New Haven: The Frank S. Platt Co.

¹ Deficiencies are in bold face type.² Guaranteed available 1.0.

SHEEP MANURE, ETC.¹

Per cent nitrogen					Per cent phosphoric acid				Per cent potash		Sand
In ammonia	Organic water-soluble	Organic water-insoluble	Total found	Total guaranteed	Citrate-insoluble	Total found	Total guaranteed	So-called "available" found	Total found	Total guaranteed	
0.02	1.26	1.25	1.34	1.00	3.31	2.00	49.11
0.34	1.91	1.00	1.91	0.50	2.93	1.00	33.35
0.06	0.14	1.40	1.60	1.50	0.50	1.59	1.09 ²	3.01	2.00	35.04
0.22	1.64	1.14	3.00	2.00	0.27	2.69	2.42 ²	1.93	1.00	9.98
0.00	0.39	1.59	1.98	2.00	1.72	1.00	2.29	2.00	24.74
0.62	1.11	1.75	3.48	2.00	2.75	1.00	2.29	1.00	4.22
0.04	0.67	1.01	1.72	1.50	0.52	0.35	3.25	2.75	37.69
0.32	2.34	2.00	0.32	2.19	1.87 ²	2.28	2.00	11.72
0.12	0.12	1.88	2.12	2.00	0.32	1.57	1.25 ²	2.08	1.00	14.92
0.12	2.19	2.00	1.44	1.00	4.28	1.00	16.32
0.00	1.48	1.25	1.47	1.00	2.93	2.00	37.70
0.00	0.31	1.01	1.32	1.25	1.10	1.00	2.78	2.00	46.75
0.46	1.37	2.53	4.36	2.00	0.35	3.20	2.85 ²	2.08	1.00	2.09
0.34	0.55	1.51	2.40	2.00	0.30	3.16	2.86 ²	1.83	1.00	18.30
0.00	1.67	2.00	1.50	1.00	2.73	2.00	26.07
0.12	0.51	1.57	2.20	2.00	0.12	1.55	1.43 ²	2.40	1.00	1.58

TABLE 7. ANALYSES OF LIMESTONE AND SIMILAR MATERIALS

Station No.	Manufacturer and brand	Sampled from stock of or sent by	Calcium oxide, per cent	Magnesium oxide, per cent	Ferrous oxide, per cent	Aluminum trioxide, per cent	Silica, per cent	Sulphur, per cent
1036	Connecticut Adamant Plaster Co., New Haven, Conn. Land Plaster	Simsbury: Cullman Bros.	33.09					
768	Connecticut Agstone Co., Danbury, Conn. Lime	Danbury: Production and Marketing Ad- ministration	32.31	13.29				
1713	New England Lime Co., Canaan, Conn.	Simsbury: Cullman Bros.	43.98	29.91				
3215	Agricultural Hydrated Lime Hydrated Lime	Suffield: Hatheway-Steane Corp.	45.09	30.70				
3451	United States Gypsum Co., Chicago, Ill.	Suffield: Hatheway-Steane Corp.	33.13					
3452	Land Plaster Land Plaster	Suffield: Hatheway-Steane Corp.	33.05					
9365	Manufacturer unknown Hydrated Lime	Hartford: Hatheway-Steane Corp.	46.17	0.53				
9441	Hydrated Lime	Hartford: Hatheway-Steane Corp.	46.87	0.18				
9364	Land Plaster	Hartford: Hatheway-Steane Corp.	33.20					
9506	Land Plaster	Hartford: Hatheway-Steane Corp.	33.20					
171	Limestone	New London: Waldo E. Clark	54.51	0.54	0.66	0.30	1.12	0.00
9301	Limestone	New London: Waldo E. Clark	38.80	1.46	1.34	1.24	26.88	0.07
9302	Limestone	New London: Waldo E. Clark	41.32	10.91	0.27	0.16	0.92	0.01
9303	Limestone	New London: Waldo E. Clark	31.92	19.81	0.23	0.32	0.80	0.04
9304	Limestone	New London: Waldo E. Clark	35.56	1.73	0.17	0.28	0.48	0.02

9305	Limestone	New London:	Waldo E. Clark	37.04	1.61	0.30	0.06	0.32	0.02
9306	Limestone	New London:	Waldo E. Clark	53.32	1.26	0.28	0.30	3.88	0.08
9307	Limestone	New London:	Waldo E. Clark	52.12	0.92	1.21	0.06	6.16	0.07
9308	Limestone	New London:	Waldo E. Clark	52.32	0.72	0.54	0.08	6.28	0.04
9309	Limestone	New London:	Waldo E. Clark	52.02	0.77	0.78	0.32	8.12	0.07
9310	Limestone	New London:	Waldo E. Clark	51.94	0.93	1.00	0.28	6.60	0.06
9311	Limestone	New London:	Waldo E. Clark	56.44	1.13	0.35	0.12	1.64	0.06
9312	Limestone	New London:	Waldo E. Clark	53.12	0.09	0.34	0.24	0.72	0.03
9785	Limestone	New London:	Waldo E. Clark	50.98	3.87	0.36	0.08	1.68	0.00
9786	Limestone	New London:	Waldo E. Clark	56.57	1.00	0.25	0.08	0.36	0.00
9787	Limestone	New London:	Waldo E. Clark	49.93	1.48	0.61	0.20	9.48	0.00
9788	Limestone	New London:	Waldo E. Clark	57.21	0.54	0.29	0.12	1.28	0.00
9789	Limestone	New London:	Waldo E. Clark	57.13	0.61	0.32	0.32	2.48	0.00
9790	Limestone	New London:	Waldo E. Clark	57.31	0.67	0.14	0.28	1.44	0.00
9791	Limestone	New London:	Waldo E. Clark	52.80	2.74	0.58	1.12	1.56	0.00
9792	Limestone	New London:	Waldo E. Clark	54.81	2.33	0.22	0.40	1.84	0.00
9793	Limestone	New London:	Waldo E. Clark	48.30	0.58	0.58	2.16	16.20	0.00
9863	Limestone	New London:	Waldo E. Clark	56.37	1.32	0.14	0.48	1.04	0.00
9864	Limestone	New London:	Waldo E. Clark	55.80	1.29	0.36	0.04	1.44	0.00
9865	Limestone	New London:	Waldo E. Clark	55.80	0.70	0.07	0.04	1.92	0.00

TABLE 8. ANALYSES OF OTHER MISCELLANEOUS MATERIALS

Station No.	Material	Nitrogen per cent	Total phosphoric acid per cent	"Available" phosphoric acid per cent	Water-soluble potash per cent	Chlorine per cent	Other analytical items per cent
1832	Composted fox and mink manure	1.59	7.49	0.25	Moisture 39.0.
8202	Cotton seeds and hulls	4.10	3.50	3.38	1.22	0.17	Nitrate N 0.00; ammonia N 2.66; sol. organic N 0.23; organic active insol. N 0.45; organic inactive insol. N 0.76.
2516	DuPont Aluminum Sulphate 17% Ground Technical	Aluminum 9.20.
1018	Fertilizer	1.97	0.93	2.31	0.02	pH 8.58.
2129	Fertilizer	2.17	1.05	2.24	Magnesium trace; bone meal and ashes present.
2131	Fertilizer	2.14	1.50	1.05	0.58	Magnesium 4.14.
2373	Fertilizer	6.18	8.07	7.32	7.61	Total potash 4.86.
1141	Greensand	1.90	0.42	Nitrate N 0.00; ammonia N 4.34; sol. organic N 0.09; insol. organic N 0.38.
9440	Gro-Mor Fertilizer	4.81	1.28	1.10	7.36	0.56	
9487	Magic Morebloom Liquid Plant Food 8-4-8	7.27	7.12	7.03	6.92	
8909	Manure	0.46	0.40	0.20	0.71	0.13	Moisture 63.0.
9409	Manure with peanut shucks	0.45	0.32	0.21	0.41	0.05	Moisture 68.5.
9405	Manure with straw bedding.	0.92	0.70	0.58	1.16	0.10	Moisture 50.1.
1471	Pig manure (fine)	1.99	2.00	0.28	
1472	Pig manure (granular)	2.44	3.75	0.92	
3927	Sewage sludge	0.96	0.32	trace	Moisture 67.0; Ca 0.26; Mg 0.08; Mn 0.003; Fe 0.27; Al 0.23; Zn 0.05; Cu 0.01; B 0.007; Ash 16.30.

2427	Tobacco dust	2.23	1.03	5.02	0.75	
56	Tobacco stems	1.92	0.63	10.73	
213	Tobacco stems	1.07	0.46	4.90	1.96	Moisture 29.5.
338	Tobacco stems	1.98	0.58	7.62	1.44	Moisture 20.0.
339	Tobacco stems	1.22	0.47	5.26	2.36	Moisture 20.5.
448	Tobacco stems	1.82	0.62	7.70	1.31	Moisture 24.0.
449	Tobacco stems	1.64	0.62	8.07	0.90	Moisture 22.0.
464	Tobacco stems	1.52	0.56	8.79	1.06	Moisture 24.0.
500	Tobacco stems	1.61	0.49	9.11	1.28	Moisture 23.0.
705	Tobacco stems	1.84	0.68	7.88	Moisture 20.5.
807	Tobacco stems	1.88	0.52	6.62	3.08	
2428	Tobacco stems	2.14	0.65	6.68	1.41	
2429	Tobacco stems	2.17	0.63	6.60	1.40	
9718	Tobacco stems	1.21	0.72	5.14	0.58	Moisture 20.0.
1764	Tobacco sweepings	2.64	3.52	

TABLE 9. ANALYSES OF SMALL PACKAGE FERTILIZERS¹

Station No.	Manufacturer and brand	Place of sampling	Per cent nitrogen				Per cent phosphoric acid		Per cent potash	
			In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	As muriate
2439 2034 2048	The American Agricultural Chemical Co., No. Weymouth, Mass. Agrico for Broadleaf Evergreens 6-10-4 Agrico for Gardens 5-10-5 Agrico for Lawns, Trees and Shrubs 6-10-4	East Hartford New London East Hartford	0.34	4.52	0.48	0.48	5.82	0.67	10.92	3.39
			0.11	2.96	1.08	1.19	5.34	0.20	11.87	4.72
			0.51	4.88	0.06	0.58	6.03	0.75	11.65	3.47
										4.56 5.32 4.42
1880	Armour Fertilizer Works, New York, N. Y. Armour's Vertagreen Plant Food 5-10-5	Cheshire	0.36	4.56	0.00	0.38	5.30	1.05	11.45	2.27
										5.08
2031	Associated Seed Growers, Inc., Milford, Conn. Japedizer 8-6-4	New London	0.73	5.64	0.44	1.28	8.09	0.37	7.10	4.35
										5.04
1989 ²	Atkins & Durbrow, Inc., New York, N. Y. DRICONURE 2-1-1	Greenwich	0.00	0.40	1.99	2.06	4.45	0.30	3.77
										1.87
1987 ³ 2042 ⁴	Central Chemical Corp., Lebanon, Pa. Farmrite Bone Meal 2-3-20.0 Farmrite Sheep Manure 1.5-1.0-2.0	Greenwich Stafford Springs	0.08	2.55	26.20
			0.00	1.33	1.45
										3.45

2050	Consolidated Rendering Co., Boston, Mass.	Thompsonville	0.00	6.76	1.32	0.46	8.54	0.40	6.95	6.55	3.99	4.48
2049		Thompsonville	0.82	3.24	0.24	5.26	0.60	11.62	11.02	4.32	5.74
2338	The Doughten Seed Co., Jersey City, N. J.	Hartford	0.00	1.20	3.28	5.30	0.30	9.95	9.65	4.15	4.80
2521	Eastern States Farmers' Exchange, Inc., West Springfield, Mass.	Bethel	0.00	9.50	0.15	0.00	9.65	0.00	51.30	51.30	0.08	15.72
2041 ⁶	Faesy & Besthoff, Inc., New York, N. Y.	Stafford Springs	0.00	3.08	25.10
2467		Stamford	0.84	2.82	0.46	2.81	6.93	1.67	11.10	9.43	2.94	4.76
2083	Goulard & Olena, Inc., Skillman, N. J.	Fairfield	0.78	4.76	0.94	0.87	7.35	0.67	11.00	10.33	6.84	7.62
2337		Hartford	0.40	3.60	3.04	2.04	9.08	0.47	9.15	8.68	3.02	3.74
1903 ⁶	A. H. Hoffman, Inc., Landsville, Pa.	Bridgeport	4.17	26.00
2065 ⁷		Norwalk	0.00	0.10	1.57	2.15	0.27	1.69	1.42	2.57

5 Mechanical analysis, Fine 73.0%; Coarse 27.0%.

⁶ Mechanical analysis, Fine 38.0%; Coarse 62.0%.

7 Sand 1.32%.

¹ Deficiencies are in bold face type.

2 Sand 2.05%.

³ Mechanical analysis, Fine 60.0%; Coarse 40.0%.

Sand 42.13%.

1920 ⁵ 1895 1917 ⁶	Gro-Fast Cow Manure 2-1-1 Gro-Fast Plant Food 5-10-5 Gro-Fast Sheep Manure 1.25-1.0-2.5	Middletown New Haven Meriden	0.00 2.80 0.00	1.28 1.36 1.88	2.21 5.44 1.88	0.17 11.87 2.07	1.10 11.70 11.70	4.62 1.38	1.82 5.34 1.38
1988	Rose Manufacturing Co., Beacon, N. Y. Triogen Rose Food 5-10-5	Greenwich	3.42	0.41	4.89	1.15	12.65	0.84	5.92
2074 2466	Saratoga Laboratories, Inc., Saratoga Springs, N. Y. Trace I. 8-16-7 Trace I. 8-16-7	Norwalk Stamford	8.38 8.62	0.01 0.05	8.82 8.67	0.05 0.05	19.30 17.27	6.98 4.44	8.00 7.08
2033	O. M. Scott & Sons Co., Marysville, Ohio Scott's Weed & Feed 7-11-5	New London	2.90	0.20	7.23	0.27	12.25	4.55	6.84
1921 ⁷ 2518 1922 2515	Sears, Roebuck & Co., Chicago, Ill. Cross Country Bone Meal 2-0-20.0 Cross Country Bulb Food 4-12-8 Cross Country Plant Food 5-10-5 Cross Country Rose Food 5-10-5	Middletown Danbury Middletown Bridgeport	0.09 3.00 3.96 3.02	0.32 0.55 0.06 0.60	2.28 3.87 5.12 4.80	2.22 15.25 0.50 1.30	25.90 13.03 11.55 12.02	7.70 7.70 5.42 1.20	7.70 7.70 6.40 5.70
2082	The Smith Agricultural Chemical Co., Columbus, Ohio Sacco Plant Food 4-12-4	Fairfield	3.36	0.12	4.34	1.87	14.50	3.52	4.52
2464 2465	Stumpp & Walter Co., New York, N. Y. Sawco Cottonseed Meal 6-2-1 Sawco Treewiz 8-6-2	Stamford Stamford	7.26 0.00	0.14 0.10	6.60 7.50	0.20 0.07	3.32 7.02	3.12 6.95	2.12 3.82

¹ Deficiencies are in bold face type.
² Sand 3.46%.
³ Sand 33.70%.
⁴ Mechanical analysis, Fine 64.0%; Coarse 36.0%.
⁵ Sand 1.77%.
⁶ Sand 34.04%.
⁷ Mechanical analysis, Fine 51.0%; Coarse 49.0%.

TABLE 9. ANALYSES OF SMALL PACKAGE FERTILIZERS¹

Station No.	Manufacturer and brand	Place of sampling	Per cent nitrogen				Per cent phosphoric acid		Per cent potash	
			In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	As muriate
1889	Swift & Co., Boston, Mass. Vigoro 4-12-4	New Haven	0.43	3.42	0.19	4.04	1.12	13.52	12.40	2.80
1902 ²	Walker-Gordon Laboratory Co., Plainsboro, N. J. Bovung 2-1-1	Bridgeport	0.00	0.12	2.19	0.25	1.66	1.41	2.74	
1998	Garfield Williamson, Inc., Jersey City, N. J. Plantspur 4-4-2	New Haven	0.15	2.44	0.48	0.71	3.78	0.87	4.65	3.23
2076	Andrew Wilson, Inc., Springfield, N. J. Wilson's Eureka Rose-Food 4-8-5	Norwalk	0.00	2.48	0.23	1.66	4.37	0.55	10.27	5.28

¹ Deficiencies are in bold face type.² Sand 1.74%.

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